

Calcasieu Estuary Remedial Investigation/Feasibility Study (RI/FS): Baseline Ecological Risk Assessment (BERA)

Appendix B1: Evaluation of the Data Collected During the Phase I and Phase II Remedial Investigation

Prepared For:

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Under Contract To:

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Prepared – October 2002 – By:

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CONTRACT NO. 68-W5-0022
DOCUMENT CONTROL NO. 3282-941-RTZ-RISKZ-14858

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Appendix B1. Evaluation of the Data Collected During the Phase I and Phase II Remedial Investigation

B1.1 Introduction

The data quality objectives (DQOs) process represents a series of planning steps that are intended to ensure that the type, quantity, and quality of environmental data that are collected during the remedial investigation are adequate to support the baseline ecological risk assessment (BERA). The project DQOs are typically developed during the problem formulation process. Integration of the DQOs process into the problem formulation ensures that the data requirements and acceptable error levels are defined prior to the collection of data. This approach helps to ensure that the results of the RI are appropriate and defensible for decision making (USEPA 1997).

B1.2 Data Evaluation

To support the Calcasieu Estuary BERA, a substantial quantity of data was collected during the Remedial Investigation (RI). More specifically, the data collected during Phase I and Phase II of the RI included whole-sediment chemistry, whole-sediment toxicity, pore-water chemistry, pore-water toxicity, benthic invertebrate community structure, and tissue chemistry (including chemical analyses fish and shellfish tissue samples). The project data quality objectives are described in the sampling and analysis plans that were prepared to support the RI (CDM 1999; 2000a; 2000b; 2000c; 2000d; 2000e).

A detailed review of the data and its usability was performed as part of the RI (CDM 2002). The evaluation summarized how collected data met the defined project DQOs (Tables B1-1 to B1-14). The evaluation of the Phase I and Phase II data included an assessment of precision, accuracy, representativeness, completeness, and comparability (PARCC) parameters, as well as an assessment of the sensitivity of the analytical methods. As such, the data evaluation provided the information needed to evaluate the usability of the data for conducting the Calcasieu Estuary BERA.

The main conclusion of the data evaluation that was conducted by CDM Federal Programs Corporation (CDM) was that the analytical data were usable and complied with United States Environmental Protection Agency (USEPA) Region VI's Environmental Investigations Standard Operating Procedures and Quality Assurance Manual (USEPA 1996). However, the data evaluation did note that the detection limits of the testing methods were higher than expected for many of the sediment samples due to high moisture content (i.e., sample quantitation limits for these samples were elevated). To ensure that such less than detection limit data did not unduly influence the results of the BERA, the less than detection limit data for which the detection limit was greater than the selected benchmark for a specific receptor group (e.g., microbes, benthic invertebrates) was not used in the exposure assessment or risk characterization for that receptor group. All other less than detection limit data was treated as one-half the reported detection limit.

Some of these samples collected during the RI were analyzed by more than one laboratory and/or by more than one analytical method (i.e., for a given analyte; e.g., copper). In cases where multiple results were available for an analyte in a given sample, only one of the reported results was used in the assessment. Typically, the highest detected concentration among the results for that sample was used. If none

of the analytical results indicated that the chemical was detected, then the sample result was considered a non-detect and the lowest detection limit among the results for that sample was used as the detection limit. Thus, only one value was used to represent each chemical concentration in each sample in the risk assessment.

As noted in USEPA guidance, various qualifiers and codes were assigned to certain analytical data by either the laboratories conducting the analyses or by the specialists performing the data validation. These qualifiers often pertain to quality control issues and generally indicate questions concerning chemical identity, chemical concentration, or both (USEPA 1989). During data validation, some results for some chemicals were R-qualified (i.e., rejected; quality control indicated that the data were not usable). As recommended in USEPA risk assessment guidance (USEPA 1989), sample results that were R-qualified were not used in the risk assessment.

B1.3 Data Summary

The data that were used in the Calcasieu Estuary BERA are summarized in this appendix. More specifically, the locations of sampling stations in the Calcasieu Estuary are shown in Figures B2-1 to B2-4. The surface-water chemistry data that were used to assess risks to aquatic plants and fish are presented in Appendix B3. The whole-sediment chemistry data that were used to assess risks to the microbial community, benthic invertebrate community, and fish community are presented in Appendix B4. Appendix B5 provides the pore-water chemistry data that were used to assess risks to aquatic plants, benthic invertebrates, and fish. Furthermore, the results of chemical analyses of the tissues of fish and shellfish are presented in

Appendix B6. The results of the whole-sediment toxicity tests, pore-water toxicity tests, and benthic invertebrate community structure assessment are presented in Appendix B7. Finally, the results of 28-d bioaccumulation tests with the polychaete, *Nereis virens*, are summarized in Appendix B8. A key to the abbreviations used for polychlorinated dibenzo-*p*-dioxins/polychlorinated dibenzofurans and polychlorinated biphenyl congeners in Appendices B2 through B9 is presented in Table B1-15.

B1.4 References

- CDM (CDM Federal Programs Corporation). 1999. Response action contract for remedial, enforcement oversight, and non-time critical removal activities at sites of release or threatened release of hazardous substances in EPA Region VIII: Phase I sampling and analysis plan for remedial investigation/feasibility study of Lower Calcasieu River Area of Concern. Lake Charles, Louisiana.
- CDM (CDM Federal Programs Corporation). 2000a. Phase II sampling and analysis plan for the remedial investigation/feasibility study of the Calcasieu Estuary cooperative site. Lake Charles, Louisiana. Contract Number 68-W5-0022. Prepared for United States Environmental Protection Agency. Dallas, Texas.
- CDM (CDM Federal Programs Corporation). 2000b. Phase I sampling and analysis plan for the remedial investigation/feasibility study of the Bayou d'Inde Area of Concern. Calcasieu River cooperative site. Lake Charles, Louisiana. Contact Number 68-W5-0022. Prepared for the United States Environmental Protection Agency. Dallas, Texas.
- CDM (CDM Federal Programs Corporation). 2000c. Phase I sampling and analysis plan for the remedial investigation/feasibility study of Upper Calcasieu River Area of Concern. Upper Calcasieu Estuary cooperative site. Lake Charles, Louisiana. Contact Number 68-W5-0022. Prepared for the United States Environmental Protection Agency. Dallas, Texas.

CDM (CDM Federal Programs Corporation). 2000d. Phase I sampling and analysis plan for the remedial investigation/feasibility study of Bayou Verdine Area of Concern. Bayou Verdine cooperative site. Lake Charles, Louisiana. Contact Number 68-W5-0022. Prepared for the United States Environmental Protection Agency. Dallas, Texas.

CDM (CDM Federal Programs Corporation). 2000e. Phase I sampling and analysis plan for the remedial investigation/feasibility study of the Upper Calcasieu River of Concern. Calcasieu Estuary cooperative site. Lake Charles, Louisiana. Contact Number 68-W5-0022. Prepared for the United States Environmental Protection Agency. Dallas, Texas.

CDM (CDM Federal Programs Corporation). 2002. Remedial investigation report for the Calcasieu Estuary, Lake Charles, Louisiana. Contract Number 68-W5-0022. Prepared for United States Environmental Protection Agency. Dallas, Texas.

USEPA (United States Environmental Protection Agency). 1989. Risk assessment guidance for superfund. Human health evaluation manual. Part A. EPA-540/1-89/001. Office of Emergency and Remedial Response. Washington, District of Columbia.

USEPA (United States Environmental Protection Agency). 1996. Environmental investigations standard operating procedures and quality assurance manual. Region VI. Dallas, Texas.

USEPA (United States Environmental Protection Agency). 1997. Ecological risk assessment guidance for Superfund: Process for designing and conducting ecological risk assessments. Environmental Response Team. Edison, New Jersey.

Tables

Table B1-1. Phase I data validation and evaluation summary.

Lab	Analytical Method	Number of Samples Analyzed	Number of Analytes Analyzed	Percent Validated	Percent Evaluated	Number of Individual Results Rejected	Number of Samples Affected by Rejects
CLP	CLP-Metals	615	14682	0%	100%	337	337
CLP	CLP-PPCB	567	16138	0%	100%	473	24
CLP	CLP-SVOC	617	40168	0%	100%	65	1
CLP	CLP-VOC	663	31824	0%	100%	6	6
Conoco Contract Lab	8270C-SIM	85	1445	0%	0%	--	--
Conoco Contract Lab	Abiotic	16	16	0%	0%	--	--
Conoco Contract Lab	AVS/SEM	53	395	0%	0%	--	--
Conoco Contract Lab	AXYS METHOD DX-T-1613/Ver.3	28	700	0%	0%	72	21
Conoco Contract Lab	AXYS METHOD DX-W-1613/Ver.1	6	150	0%	0%	9	5
Conoco Contract Lab	CVAFS	70	70	0%	0%	--	--
Conoco Contract Lab	E130.2	13	13	0%	0%	--	--
Conoco Contract Lab	E160.3	74	74	0%	0%	--	--
Conoco Contract Lab	E300	13	13	0%	0%	--	--
Conoco Contract Lab	E310.1	13	13	0%	0%	--	--
Conoco Contract Lab	E350.1	13	13	0%	0%	--	--
Conoco Contract Lab	E351.2	13	13	0%	0%	--	--
Conoco Contract Lab	EPH	66	983	0%	0%	--	--
Conoco Contract Lab	Gravimetry	67	67	0%	0%	--	--
Conoco Contract Lab	SW6010B	134	1498	0%	0%	37	37
Conoco Contract Lab	SW6020	71	994	0%	0%	--	--
Conoco Contract Lab	SW7196	101	101	0%	0%	--	--
Conoco Contract Lab	SW7470A	23	23	0%	0%	--	--
Conoco Contract Lab	SW7471A	182	182	0%	0%	--	--
Conoco Contract Lab	SW8081A	151	2896	0%	0%	--	--
Conoco Contract Lab	SW8082	151	1091	0%	0%	--	--
Conoco Contract Lab	SW8260B	244	8887	0%	0%	31	24
Conoco Contract Lab	SW8270C	309	15025	0%	0%	--	--
Conoco Contract Lab	SW8310	71	1111	0%	0%	142	13

Table B1-1. Phase I data validation and evaluation summary.

Lab	Analytical Method	Number of Samples Analyzed	Number of Analytes Analyzed	Percent Validated	Percent Evaluated	Number of Individual Results Rejected	Number of Samples Affected by Rejects
Conoco Contract Lab	SW9030	22	22	0%	0%		--
Conoco Contract Lab	Methyl mercury	1	1	0%	0%		--
Conoco Contract Lab	VPH	73	519	0%	0%		--
Conoco Contract Lab	WBLACK	122	122	0%	0%		--
EPA R6	HOU-SVOC	6	396	0%	100%		--
Olin Contract Lab	E130.2	2	2	0%	0%		--
Olin Contract Lab	E160.1	2	2	0%	0%		--
Olin Contract Lab	E160.2	2	2	0%	0%		--
Olin Contract Lab	E300	2	14	0%	0%		--
Olin Contract Lab	E310.1	2	8	0%	0%		--
Olin Contract Lab	E350.3	2	2	0%	0%		--
Olin Contract Lab	E351.3	2	2	0%	0%		--
Olin Contract Lab	E405.1	2	2	0%	0%		--
Olin Contract Lab	E410.4	2	2	0%	0%		--
Olin Contract Lab	E6020	74	592	0%	0%	23	23
Olin Contract Lab	SW6010B	74	1414	0%	0%		--
Olin Contract Lab	SW7470A	9	9	0%	0%		--
Olin Contract Lab	SW7471A	65	65	0%	0%		--
Olin Contract Lab	SW8015B	12	12	0%	0%		--
Olin Contract Lab	SW8081A	74	1476	0%	0%		--
Olin Contract Lab	SW8082	74	518	0%	0%		--
Olin Contract Lab	SW8151A	74	740	0%	0%		--
Olin Contract Lab	SW8260B	85	4845	0%	0%		--
Olin Contract Lab	SW8270C	74	4662	0%	0%		--
Olin Contract Lab	SW9045C	11	11	0%	0%		--
Olin Contract Lab	SW9060	13	13	0%	0%		--
Quanterra	%Lipid	71	71	100%	100%		--

Table B1-1. Phase I data validation and evaluation summary.

Lab	Analytical Method	Number of Samples Analyzed	Number of Analytes Analyzed	Percent Validated	Percent Evaluated	Number of Individual Results Rejected	Number of Samples Affected by Rejects
Quanterra	E130.2	18	18	100%	100%		--
Quanterra	E160.1	17	17	100%	100%		--
Quanterra	E160.2	18	17	100%	100%		--
Quanterra	E310.1	17	65	100%	100%		--
Quanterra	E350.1	18	18	100%	100%		--
Quanterra	E351.2	18	18	100%	100%		--
Quanterra	E353.2	18	18	100%	100%		--
Quanterra	E405.1	16	16	100%	100%		--
Quanterra	E410.4	17	17	100%	100%		--
Quanterra	EPA300.0A	18	89	100%	100%		--
Quanterra	SW6010B	73	1576	100%	100%	1	1
Quanterra	SW6020	568	1076	100%	100%		--
Quanterra	SW7470A	66	67	100%	100%	1	1
Quanterra	SW7471A	68	68	100%	100%		--
Quanterra	SW8015B MOD	114	114	100%	100%		--
Quanterra	SW8081A	71	1491	100%	100%	55	30
Quanterra	SW8082	71	497	100%	100%		--
Quanterra	SW8151A	536	5542	100%	100%	209	25
Quanterra	SW8270C	85	5490	100%	100%	50	1
Quanterra	SW8290	116	2900	100%	100%		--
Quanterra	SW9012	87	87	100%	100%		--
Quanterra	SW9045C	94	94	100%	100%		--
Quanterra	SW9060	113	113	100%	100%		--
Quanterra	SW9081	82	82	100%	100%		--
Quanterra	VPH	2	10	100%	100%		--

CLP = contract laboratory program; EPA R6 = Environmental Protection Agency Region VI.

Table B1-2. Phase II data validation and evaluation summary.

Lab	Analytical Fraction	Number of Samples Analyzed	Number of Analytes Analyzed	Percent Validated	Percent Evaluation Only	Percent Received	Number of Samples Affected by Rejects
AATS	Methyl mercury	219	219	0%	0%	100%	--
AATS	Percent lipids	663	663	0%	0%	100%	--
AATS	TAL Metals	737	8636	17%	100%	99%	83
AATS	TAL Pesticide/PCB	900	24969	18%	100%	99%	190
AATS	TAL SVOC	930	54219	22%	100%	100%	835
AATS	TCLP Metals	14	127	14%	100%	100%	--
AATS	TCLP Semivolatiles	13	215	23%	100%	85%	--
ACZ	Mercury ICP/MS	690	690	0%	12%	100%	--
ALTA	Dioxins and Furans	198	4950	14%	100%	100%	--
ALTA	PCBs (CONGENERS)	198	4354	13%	100%	100%	--
CERC	10-day Acute, <i>Hyalella azteca</i>	101	NA	0%	0%	0%	--
CERC	28-day Chronic, <i>Hyalella azteca</i>	101	NA	0%	0%	0%	--
CERC	AVS/SEM	109	970	0%	0%	100%	--
CERC	Dissolved metals	52	336	0%	0%	100%	--
CERC	Grain size	110	330	0%	0%	91%	--
CERC	Microtox	101	NA	0%	0%	0%	--
CERC	Total dissolved carbon	101	NA	0%	0%	99%	--
CERC	Total metals	53	984	0%	0%	98%	--
CERC	Total organic carbon	110	110	0%	0%	90%	--
CERC	Toxicity identification evaluation	11	NA	0%	0%	0%	--
EPA R6	TAL Metals	7	159	0%	100%	100%	5
EPA R6	TAL Pesticide/PCB	8	132	0%	100%	100%	--
EPA R6	TAL SVOC	106	3280	0%	100%	100%	76
ES&E	10-day survival, <i>Ampelisca abdita</i>	101	NA	0%	0%	0%	--
ES&E	Ammonia	101	100	0%	0%	99%	--
ES&E	Bioaccumulation	13	NA	0%	0%	0%	--
ES&E	Hardness	100	100	0%	0%	100%	--
ES&E	Salinity	100	100	0%	0%	100%	--
MERC	Embryo-larval assays, <i>Sciaenops ocellatus</i>	50	NA	0%	0%	0%	--
MERC	Fertilization and development	50	NA	0%	0%	0%	--
MERC	Germination assay, <i>Ulva lactuca</i>	50	NA	0%	0%	0%	--
MERC	Hydrogen sulfide	101	100	0%	0%	99%	--
UMISS	Benthic community survey	101	NA	0%	0%	0%	--

ALTA = ALTA Laboratories; ACZ = ACZ Laboratories; AATS = American Analytical and Technical Services Inc.;

CERC = Columbia Environmental Research Center; EPA R6 = Environmental Protection Agency Region VI;

GERG = Geochemical and Environmental Research Group; MERC = Marine Environmental Research Center;

ES&E = Harding Environmental Sciences and Engineering; UMISS = University of Mississippi;

TAL = target analyte list; PCB = polychlorinated biphenyls; SVOC = semi-volatile organic carbons;

TCLP = toxicity characteristic leaching procedure; ICP-MS = inductively-coupled plasma-mass spectrometry;

AVS/SEM = acid volatile sulfide/simultaneously extracted metal

Table B1-3. Criteria for evaluating duplicate, matrix spike (MS) and matrix-spike duplicate (MSD) data - metals.

Analyte	Criteria for Evaluating Duplicate, MS and MSD Results			
	Sediment		Surface Water	
	Laboratory Duplicate	MS/MSD Criteria	Laboratory Duplicate	MS/MSD Criteria
TAL METALS (SW-846 Methods 6010B/7000/9010B or CLP)	If both results >5 x CRDL: Sediment: < 35% If either result < 5 x CRDL: Sediment: < 2 x CRDL	If sample result < 4 x Spike: 75 - 125% (post digestion spike not required for silver and mercury)	If both results >5 x CRDL: Surface Water: < 20% If either result < 5 x CRDL: Surface Water: < 1 x CRDL	If sample result < 4 x Spike: 75 - 125% (post digestion spike not required for silver and mercury)

Verified against Calcasieu Estuary Phase II Sampling and Analysis Plan.

TAL = target analyte list; CRDL = contract required detection limit; CLP = contract laboratory program.

Table B1-4. Criteria for evaluating, matrix spike (MS) and matrix-spike duplicate (MSD) analyses - organics.

Analyte	Criteria for Evaluating MS/MSD Results			
	Sediment		Surface Water	
	Percent Recovery	Relative Percent Difference	Percent Recovery	Relative Percent Difference
Volatile Organic Compounds (SW-846 and CLP Methods)				
1,1-Dichloroethene	59 - 172%	22	61 - 145%	14
Trichloroethene	62 - 137%	24	71 - 120%	14
Benzene	66 - 142%	21	76 - 127%	11
Toluene	59 - 139%	21	76 - 125%	13
Chlorobenzene	60 - 133%	21	75 - 130%	13
Semi-Volatile Organic Compounds (SW-846 and CLP Methods)				
Phenol	26 - 90%	35	12 - 110%	42
2-Chlorophenol	25 - 102%	50	27 - 123%	40
1,4-Dichlorobenzene	28 - 104%	27	36 - 97%	28
N-Nitroso-di-n-propylamine	41 - 126%	38	41 - 116%	38
1,2,4-Trichlorobenzene	38 - 107%	23	39 - 98%	28
4-Chloro-3-methylphenol	26 - 103%	33	23 - 97%	42
Acenaphthene	31 - 137%	19	46 - 118%	31
4-Nitrophenol	11 - 114%	50	10 - 80%	50
2,4-Dinitrotoluene	28 - 89%	47	24 - 96%	38
Pentachlorophenol	17 - 109%	47	9 - 103%	50
Pyrene	35 - 142%	36	26 - 127%	31
Pesticides (SW-846 and CLP Methods)				
gamma-BHC	46 - 127%	50	56 - 123%	15
Heptachlor	35 - 130%	31	40 - 131%	20
Aldrin	34 - 132%	43	40 - 120%	22
Dieldrin	31 - 134%	38	52 - 126%	18
Endrin	42 - 139%	45	56 - 121%	21
4,4'-DDT	23 - 134%	50	38 - 127%	27

Verified against Calcasieu Estuary Phase II Sampling and Analysis Plan (Table 5-3). Could not find relevant EPA documents to support.

Table B1-5. Ion ratio limits for dioxins and furans.

Analyte	Control Criteria					
	Sediment:		Surface Water:		Lab Duplicate Criteria	
	Ion Ratio Limits	Relative Percent Difference	Ion Ratio Limits	Relative Percent Difference		
Dioxins/Furans (SW-846 and CLP Methods)						
2,3,7,8-Tetrachlorodibenzofuran	0.65 - 0.89	25 - 150%	0.65 - 0.89	25 - 150%	<50%	
2,3,7,8-Tetrachlorodibenzodioxin	0.65 - 0.89	25 - 150%	0.65 - 0.89	25 - 150%	<50%	
1,2,3,6,7,8-Hexachlorodibenzodioxin	1.05 - 1.43	25 - 150%	1.05 - 1.43	25 - 150%	<50%	
1,2,3,4,6,7,8-Heptachlorodibenzofuran	0.88 - 1.20	25 - 150%	0.88 - 1.20	25 - 150%	<50%	
Octachlorodibenzodioxin	0.76 - 1.01	25 - 150%	0.76 - 1.01	25 - 150%	<50%	

Verified against Calcasieu Estuary Phase II Sampling and Analysis Plan and against USEPA CLP SOW for analysis of chlorinated dibenzo-*p*-dioxins and chlorinated dibenzofurans.

USEPA = United States Environmental Protection Agency; CLP = contract laboratory program; SOW = statement of work.

Table B1-6. Phase I sediment percent recoveries.

Analyte	Method	Laboratory Duplicate Percent Recovery ^a	MS/MSD Percent Recovery (CLP/Quanterra) ^b	MS/MSD RPD (CLP/Quanterra) ^b
Conventional Variables				
Cation exchange capacity		--	--	--
pH		--	--	--
Total organic carbon		--	--	--
Dioxin/Furans				
1,2,3,4,6,7,8-HpCDD	SW-846 8299 or CLP	< 50%	50 - 150%	3.3%
1,2,3,4,6,7,8-HpCDF		< 50%	50 - 150%	6.2%
1,2,3,4,7,8,9-HpCDF		< 50%	50 - 150%	2.4%
1,2,3,4,7,8-HxCDD		< 50%	50 - 150%	0.47%
1,2,3,4,7,8-HxCDF		< 50%	50 - 150%	4.6%
1,2,3,6,7,8-HxCDD		< 50%	50 - 150%	7.6%
1,2,3,6,7,8-HxCDF		< 50%	50 - 150%	6.8%
1,2,3,7,8,9-HxCDD		< 50%	50 - 150%	0.66%
1,2,3,7,8,9-HxCDF		< 50%	50 - 150%	6.5%
1,2,3,7,8-PeCDD		< 50%	50 - 150%	2.2%
1,2,3,7,8-PeCDF		< 50%	50 - 150%	1.3%
2,3,4,6,7,8-HxCDF		< 50%	50 - 150%	0.35%
2,3,4,7,8-PeCDF		< 50%	50 - 150%	6.1%
2,3,7,8-TCDD		< 50%	50 - 150%	0.55%
2,3,7,8-TCDF		< 50%	50 - 150%	1.4%
OCDD		< 50%	50 - 150%	6.4%
OCDF		< 50%	50 - 150%	11%
Total HpCDD		< 50%	50 - 150%	--
Total HpCDF		< 50%	50 - 150%	--
Total HxCDD		< 50%	50 - 150%	--
Total HxCDF		< 50%	50 - 150%	--
Total PeCDD		< 50%	50 - 150%	--

Table B1-6. Phase I sediment percent recoveries.

Analyte	Method	Laboratory Duplicate Percent Recovery ^a	MS/MSD Percent Recovery (CLP/ <i>Quanterra</i>) ^b	MS/MSD RPD (CLP/ <i>Quanterra</i>) ^b
Dioxin/Furans (cont.)				
Total PeCDF		< 50%	50 - 150%	--
Total TCDD		< 50%	50 - 150%	--
Total TCDF		< 50%	50 - 150%	--
Herbicides				
2,2-Dichloropropionic Acid		--	--	--
2,4,5-T		--	38-92%	21%
2,4,5-TP (Silvex)		--	45-87%	6.7%
2,4-D		--	28-104%	1.9%
2,4-DB		--	--	--
Dicamba		--	--	--
Dichlorprop		--	--	--
Dinitrobutyl Phenol		--	--	--
MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)		--	--	--
Mecoprop		--	--	--
Metals				
Aluminum (Fume or Dust)	SW-846 Methods 6010B/7000/9010B or CLP	If both results >5 x CRDL: < 35% If either result < 5 x CRDL: < 2 x CRDL	If sample result < 4 x Spike: 75 - 125%	--
Antimony		If both results >5 x CRDL: < 35% If either result < 5 x CRDL: < 2 x CRDL	If sample result < 4 x Spike: 75 - 125%	--
Arsenic		If both results >5 x CRDL: < 35% If either result < 5 x CRDL: < 2 x CRDL	If sample result < 4 x <i>Spike: 75 - 125%; 80-120%</i>	2.6%
Barium		If both results >5 x CRDL: < 35% If either result < 5 x CRDL: < 2 x CRDL	Spike: 75 - 125% If sample result < 4 x	--
Beryllium		If both results >5 x CRDL: < 35% If either result < 5 x CRDL: < 2 x CRDL	Spike: 75 - 125% If sample result < 4 x	--
Cadmium		If both results >5 x CRDL: < 35% If either result < 5 x CRDL: < 2 x CRDL	Spike: 75 - 125% If sample result < 4 x	--

Table B1-6. Phase I sediment percent recoveries.

Analyte	Method	Laboratory Duplicate Percent Recovery ^a	MS/MSD Percent Recovery (CLP/ <i>Quanterra</i>) ^b	MS/MSD RPD (CLP/ <i>Quanterra</i>) ^b
Metals (cont.)				
Calcium		If both results >5 x CRDL: < 35% If either result < 5 x CRDL: < 2 x CRDL	Spike: 75 - 125% If sample result < 4 x	--
Chromium		If both results >5 x CRDL: < 35% If either result < 5 x CRDL: < 2 x CRDL	Spike: 75 - 125% If sample result < 4 x	--
Cobalt		If both results >5 x CRDL: < 35% If either result < 5 x CRDL: < 2 x CRDL	Spike: 75 - 125% If sample result < 4 x	--
Copper		If both results >5 x CRDL: < 35% If either result < 5 x CRDL: < 2 x CRDL	Spike: 75 - 125% If sample result < 4 x	--
Cyanide		If either result < 5 x CRDL: < 2 x CRDL --	Spike: 75 - 125% If sample result < 4 x	--
Iron		If both results >5 x CRDL: < 35% If either result < 5 x CRDL: < 2 x CRDL	Spike: 75 - 125% If sample result < 4 x	--
Lead		If both results >5 x CRDL: < 35% If either result < 5 x CRDL: < 2 x CRDL	Spike: 75 - 125% If sample result < 4 x	--
Magnesium		If both results >5 x CRDL: < 35% If either result < 5 x CRDL: < 2 x CRDL	Spike: 75 - 125% If sample result < 4 x	--
Manganese		If both results >5 x CRDL: < 35% If either result < 5 x CRDL: < 2 x CRDL	Spike: 75 - 125% If sample result < 4 x	--
Mercury		If both results >5 x CRDL: < 35% If either result < 5 x CRDL: < 2 x CRDL	Spike: 75 - 125% If sample result < 4 x	--
Nickel		If both results >5 x CRDL: < 35% If either result < 5 x CRDL: < 2 x CRDL	Spike: 75 - 125% If sample result < 4 x	--
Potassium		If both results >5 x CRDL: < 35% If either result < 5 x CRDL: < 2 x CRDL	Spike: 75 - 125% If sample result < 4 x	--
Selenium		If both results >5 x CRDL: < 35% If either result < 5 x CRDL: < 2 x CRDL	Spike: 75 - 125% If sample result < 4 x	--
Silver		If both results >5 x CRDL: < 35% If either result < 5 x CRDL: < 2 x CRDL	Spike: 75 - 125% If sample result < 4 x	--

Table B1-6. Phase I sediment percent recoveries.

Analyte	Method	Laboratory Duplicate Percent Recovery ^a	MS/MSD Percent Recovery (CLP/ <i>Quanterra</i>) ^b	MS/MSD RPD (CLP/ <i>Quanterra</i>) ^b
Metals (cont.)				
Sodium		If both results >5 x CRDL: < 35% If either result < 5 x CRDL: < 2 x CRDL	Spike: 75 - 125% If sample result < 4 x	--
Thallium		If both results >5 x CRDL: < 35% If either result < 5 x CRDL: < 2 x CRDL	Spike: 75 - 125% If sample result < 4 x	--
Vanadium (Fume or Dust)		If both results >5 x CRDL: < 35% If either result < 5 x CRDL: < 2 x CRDL	Spike: 75 - 125% If sample result < 4 x	--
Zinc		If both results >5 x CRDL: < 35% If either result < 5 x CRDL: < 2 x CRDL	Spike: 75 - 125% If sample result < 4 x	--
PCB Aroclors				
Aroclor-1016	SW-846 Methods 8081A and 8082 or CLP	--	--	--
Aroclor-1221		--	--	--
Aroclor-1232		--	--	--
Aroclor-1242		--	--	--
Aroclor-1248		--	--	--
Aroclor-1254		--	--	--
Aroclor-1260		--	--	--
Pesticides				
1,1,1-Trichloro-2,2-bis (p-methoxyphenyl)-ethane	SW-846 Methods 8081A and 8082 or CLP	--	--	--
4,4'-DDD		--	--	--
4,4'-DDE		--	--	--
4,4'-DDT		--	23-134%	50%
Aldrin		--	34-132%	43%
alpha-BHC		--	--	--
alpha-chlordane		--	--	--
beta-BHC		--	--	--
Camphechlor		--	--	--

Table B1-6. Phase I sediment percent recoveries.

Analyte	Method	Laboratory Duplicate Percent Recovery ^a	MS/MSD Percent Recovery (CLP/ <i>Quanterra</i>) ^b	MS/MSD RPD (CLP/ <i>Quanterra</i>) ^b
Pesticides cont.				
delta-BHC		--	--	--
Dieldrin		--	31-134%	38%
Endosulfan I		--	--	--
Endosulfan II		--	--	--
Endosulfan sulfate		--	--	--
Endrin		--	42-139%	45%
Endrin aldehyde		--	--	--
Endrin Ketone		--	--	--
gamma-BHC (Lindane)		--	46-127%	50%
gamma-chlordane		--	--	--
Heptachlor		--	35-130%	31%
Heptachlor epoxide		--	--	--
PAHs and SVOCs				
1,1'-Biphenyl	SW-846 Method 8270C or CLP	--	--	--
1,2,4-Trichlorobenzene		--	--	--
1,2-Benzphenanthracene		--	--	--
1,2-Dichlorobenzene		--	--	--
1,4-Dichlorobenzene		--	--	--
2,2'-oxybis(1-Chloropropane)		--	--	--
2,4,5-Trichlorophenol		--	--	--
2,4,6-Trichlorophenol		--	--	--
2,4-Dichlorophenol		--	--	--
2,4-Dimethylphenol		--	--	--
2,4-Dinitrophenol		--	--	--
2,4-Dinitrotoluene		--	28-89%	47%
2,6-Dinitrotoluene		--	--	--
2-Chloronaphthalene		--	--	--
2-Chlorophenol		--	25-102%	50%

Table B1-6. Phase I sediment percent recoveries.

Analyte	Method	Laboratory Duplicate Percent Recovery ^a	MS/MSD Percent Recovery (CLP/ <i>Quanterra</i>) ^b	MS/MSD RPD (CLP/ <i>Quanterra</i>) ^b
<i>PAHs and SVOCs (cont.)</i>				
2-Methylnaphthalene		--	--	--
2-Methylphenol		--	--	--
2-Nitroaniline		--	--	--
2-Nitrophenol		--	--	--
3,3'-Dichlorobenzidine		--	--	--
3,5,5-Trimethyl-2-cyclohexene-1-one		--	--	--
3-Methylphenol & 4-Methylphenol		--	--	--
3-Nitroaniline		--	--	--
4,6-Dinitro-2-methylphenol		--	--	--
4-Bromophenyl Phenyl Ether		--	--	--
4-Chloro-3-methylphenol		--	26-103%	33%
4-Chlorophenyl phenyl ether		--	--	--
4-Methylphenol		--	--	--
4-Nitrophenol		--	11-114%	50%
Acenaphthene		--	31-137%	19%
Acenaphthylene		--	--	--
Acetophenone		--	--	--
Anthracene		--	--	--
Atrazine		--	--	--
Benzaldehyde		--	--	--
Benzo(a)anthracene		--	--	--
Benzo(a)pyrene		--	--	--
Benzo(b)fluoranthene		--	--	--
Benzo(g,h,i)perylene		--	--	--
Benzo(k)fluoranthene		--	--	--
Benzoic acid		--	--	--
Benzyl alcohol		--	--	--
Benzyl butyl phthalate		--	--	--

Table B1-6. Phase I sediment percent recoveries.

Analyte	Method	Laboratory Duplicate Percent Recovery ^a	MS/MSD Percent Recovery (CLP/ <i>Quanterra</i>) ^b	MS/MSD RPD (CLP/ <i>Quanterra</i>) ^b
<i>PAHs and SVOCs (cont.)</i>				
bis(2-Chloroethoxy)methane		--	--	--
bis(2-Chloroethyl)ether		--	--	--
bis(2-Ethylhexyl)phthalate		--	--	--
Caprolactam		--	--	--
Carbazole		--	--	--
Dibenzo(a,h)anthracene		--	--	--
Dibenzofuran		--	--	--
Diethyl phthalate		--	--	--
Dimethyl phthalate		--	--	--
Di-n-butylphthalate		--	--	--
Di-n-octylphthalate		--	--	--
Fluoranthene		--	--	--
Fluorene		--	--	--
Hexachloro-1,3-butadiene		--	--	--
Hexachlorobenzene		--	--	--
Hexachlorocyclopentadiene		--	--	--
Hexachloroethane		--	--	--
Indeno(1,2,3-cd)pyrene		--	--	--
M-Dichlorobenzene		--	--	--
Naphthalene		--	--	--
Nitrobenzene		--	--	--
N-Nitroso-di-n-propylamine		--	41-126%	38%
N-Nitrosodiphenylamine		--	--	--
P-Chloroaniline		--	--	--
Pentachlorophenol		--	17-109%	47%
Phenanthrene		--	--	--
Phenol		--	26-90%	35%
P-Nitroaniline		--	--	--
Pyrene		--	35-142%	36%

Table B1-6. Phase I sediment percent recoveries.

Analyte	Method	Laboratory Duplicate Percent Recovery ^a	MS/MSD Percent Recovery (CLP/ <i>Quanterra</i>) ^b	MS/MSD RPD (CLP/ <i>Quanterra</i>) ^b
TPH	Non-halogenated organics using GC/FID (SW-846 8015B Modified)	--	57-134%	12%
VOCs	SW-846 Method 8260B or CLP	--	59-172%	--
1,1,1-Trichloroethane		--	59-172%	--
1,1,2,2-Tetrachloroethane		--	59-172%	--
1,1,2-Trichloroethane		--	59-172%	--
1,1-Dichloroethane		--	59-172%	--
1,1-Dichloroethylene		--	59-172%	22%
1,2-Dibromo-3-chloropropane (DBCP)		--	59-172%	--
1,2-Dibromoethane		--	59-172%	--
1,2-Dichloroethane		--	59-172%	--
1,2-Dichloropropane		--	59-172%	--
2-Butanone		--	59-172%	--
4-Methyl-2-pentanone		--	59-172%	--
Acetone		--	59-172%	--
Benzene		--	66-142%	21%
Bromodichloromethane		--	59-172%	--
Bromomethane		--	59-172%	--
Carbon disulfide		--	59-172%	--
Carbon tetrachloride		--	59-172%	--
CFC-11		--	59-172%	--
CFC-12		--	59-172%	--
Chlorinated fluorocarbon (Freon 113)		--	59-172%	--
Chlorobenzene		--	60-133%	21%
Chlorodibromomethane		--	59-172%	--
Chloroethane		--	59-172%	--
Chloroform		--	59-172%	--
Chloromethane		--	59-172%	--

Table B1-6. Phase I sediment percent recoveries.

Analyte	Method	Laboratory Duplicate Percent Recovery ^a	MS/MSD Percent Recovery (CLP/Quanterra) ^b	MS/MSD RPD (CLP/Quanterra) ^b
VOCs (cont.)				
cis-1,2-Dichloroethene		--	59-172%	--
cis-1,3-Dichloropropene		--	59-172%	--
Cyclohexane		--	59-172%	--
Dichloromethane		--	59-172%	--
Ethylbenzene		--	59-172%	--
Isopropylbenzene		--	59-172%	--
Methyl Acetate		--	59-172%	--
Methyl N-Butyl Ketone		--	59-172%	--
Methyl tert-Butyl Ether		--	59-172%	--
Methylbenzene		--	59-172%	--
Methylcyclohexane		--	59-172%	--
Styrene (monomer)		--	59-172%	--
Tetrachloroethene		--	59-172%	--
trans-1,2-Dichloroethene		--	59-172%	--
trans-1,3-Dichloropropene		--	59-172%	--
Tribromomethane		--	59-172%	--
Trichloroethylene		--	62-137%	24%
Vinyl chloride		--	59-172%	--
Xylenes (total)		--	59-172%	--

^aDerived from Calcasieu Estuary Phase I Sampling and Analysis Plan.^bDerived from Form III's and Form V's from the CLP and Quanterra hard copy data packages.

PCBs = polychlorinated biphenyls; PAHs = polycyclic aromatic hydrocarbons; SVOCs = semi-volatile organic compounds; VOCs = volatile organic compounds; TAL = target analyte list;

TPH = total petroleum hydrocarbons; MS/MSD = matrix spike/matrix-spike duplicate; RPD = relative percent difference; CLP = contract laboratory program;

CRDL = contract required quantitation limit.

Table B1-7. Phase I surface-water percent recoveries.

Method Group/Analyte	Method	Laboratory Duplicate Percent Recovery ^a	MS/MSD Percent Recovery (CLP/ <i>Quanterra</i>) ^b	MS/MSD RPD (CLP/ <i>Quanterra</i>) ^b
Conventional Variables/Nutrients				
Nitrogen, as ammonia		--	--	--
Bicarbonate alkalinity		--	--	--
Biochemical oxygen demand (BOD)		--	--	--
Bromide		--	--	--
Carbonate alkalinity		--	--	--
Chemical oxygen demand (COD)		--	--	--
Chloride		--	--	--
Fluoride		--	--	--
Hardness, as CaCO ₃		--	--	--
Hydroxide alkalinity		--	--	--
Nitrate-Nitrite		--	--	--
Phosphate as P, Ortho		--	--	--
Sulfate		--	--	--
Total alkalinity		--	--	--
Total kjeldahl nitrogen		--	--	--
Total organic carbon		--	91-111%	1.3%
Total suspended solids		--	--	--
Dioxin/Furans				
1,2,3,4,6,7,8-HpCDD	SW-846 8290 or CLP	< 50%	78-134%	107%
1,2,3,4,6,7,8-HpCDF		< 50%	80-115%	102%
1,2,3,4,7,8,9-HpCDF		< 50%	68-151%	128%
1,2,3,4,7,8-HxCDD		< 50%	58-146%	101%
1,2,3,4,7,8-HxCDF		< 50%	77-124%	109%
1,2,3,6,7,8-HxCDD		< 50%	80-131%	109%
1,2,3,6,7,8-HxCDF		< 50%	69-135%	115%
1,2,3,7,8,9-HxCDD		< 50%	60-154%	114%
1,2,3,7,8,9-HxCDF		< 50%	58-141%	114%

Table B1-7. Phase I surface-water percent recoveries.

Method Group/Analyte	Method	Laboratory Duplicate Percent Recovery ^a	MS/MSD Percent Recovery (CLP/ <i>Quanterra</i>) ^b	MS/MSD RPD (CLP/ <i>Quanterra</i>) ^b
Dioxin/Furans (cont.)				
1,2,3,7,8-PeCDD		< 50%	85-131%	105%
1,2,3,7,8-PeCDF		< 50%	79-136%	102%
2,3,4,6,7,8-HxCDF		< 50%	58-140%	114%
2,3,4,7,8-PeCDF		< 50%	56-164%	101%
2,3,7,8-TCDD		< 50%	73-144%	100%
2,3,7,8-TCDF		< 50%	70-135%	99%
OCDD		< 50%	73-144%	108%
OCDF		< 50%	64-152%	107%
Total HpCDD		< 50%	--	--
Total HpCDF		< 50%	--	--
Total HxCDD		< 50%	--	--
Total HxCDF		< 50%	--	--
Total PeCDD		< 50%	--	--
Total PeCDF		< 50%	--	--
Total TCDD		< 50%	--	--
Total TCDF		< 50%	--	--
Herbicides				
2,2-Dichloropropionic acid		--	--	--
2,4,5-T		--	--	--
2,4,5-TP (Silvex)		--	--	--
2,4-D		--	--	--
2,4-DB		--	--	--
Dicamba		--	--	--
Dichlorprop		--	--	--
Dinitrobutyl phenol		--	--	--
MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)		--	--	--
Mecoprop		--	--	--

Table B1-7. Phase I surface-water percent recoveries.

Method Group/Analyte	Method	Laboratory Duplicate Percent Recovery ^a	MS/MSD Percent Recovery (CLP/ <i>Quanterra</i>) ^b	MS/MSD RPD (CLP/ <i>Quanterra</i>) ^b
Metals				
Aluminum (Fume or Dust), total	SW-846 Methods 6010B/7000/9010B or CLP	If both results >5 x CRDL: < 20%	If sample result < 4 x Spike: 75 - 125%/80-120%	36%
Aluminum (Fume or Dust), dissolved		If either result < 5 x CRDL: < 1 x CRDL	If sample result < 4 x Spike: 75 - 125%/80-120%	3.4%
Antimony		If both results >5 x CRDL: < 20%	If sample result < 4 x Spike: 75 - 125%	--
Arsenic, total		If either result < 5 x CRDL: < 1 x CRDL	If sample result < 4 x Spike: 75 - 125%/80-120%	9.1%
Arsenic, dissolved		If both results >5 x CRDL: < 20%	If sample result < 4 x Spike: 75 - 125%/80-120%	0.40%
Barium		If either result < 5 x CRDL: < 1 x CRDL	If sample result < 4 x Spike: 75 - 125%	--
Beryllium		If both results >5 x CRDL: < 20%	If sample result < 4 x Spike: 75 - 125%	--
Cadmium		If either result < 5 x CRDL: < 1 x CRDL	If sample result < 4 x Spike: 75 - 125%	--
Calcium		If both results >5 x CRDL: < 20%	If sample result < 4 x Spike: 75 - 125%	--
Chromium		If either result < 5 x CRDL: < 1 x CRDL	If sample result < 4 x Spike: 75 - 125%	--
Cobalt		If both results >5 x CRDL: < 20%	If sample result < 4 x Spike: 75 - 125%	--
Copper, total		If either result < 5 x CRDL: < 1 x CRDL	If sample result < 4 x Spike: 75 - 125%/80-120%	6.7%
Copper, dissolved		If both results >5 x CRDL: < 20%	If sample result < 4 x Spike: 75 - 125%/80-120%	0.30%
Cyanide, total		If either result < 5 x CRDL: < 1 x CRDL	72-118%	1.50%

Table B1-7. Phase I surface-water percent recoveries.

Method Group/Analyte	Method	Laboratory Duplicate Percent Recovery ^a	MS/MSD Percent Recovery (CLP/ <i>Quanterra</i>) ^b	MS/MSD RPD (CLP/ <i>Quanterra</i>) ^b
Metals (cont.)				
Iron		If both results >5 x CRDL: < 20% If either result < 5 x CRDL: < 1 x CRDL	If sample result < 4 x Spike: 75 - 125%	--
Lead, total		If both results >5 x CRDL: < 20%	If sample result < 4 x Spike: 75 - 125%/80-120%	8.8%
Lead, dissolved		If either result < 5 x CRDL: < 1 x CRDL	If sample result < 4 x Spike: 75 - 125%/80-120%	1.9%
Magnesium		If both results >5 x CRDL: < 20% If either result < 5 x CRDL: < 1 x CRDL	If sample result < 4 x Spike: 75 - 125%	--
Manganese		If both results >5 x CRDL: < 20% If either result < 5 x CRDL: < 1 x CRDL	If sample result < 4 x Spike: 75 - 125%	--
Mercury, total		If both results >5 x CRDL: < 20% If either result < 5 x CRDL: < 1 x CRDL	If sample result < 4 x Spike: 75 - 125%/79-119%	2%
Nickel, total		If both results >5 x CRDL: < 20%	If sample result < 4 x Spike: 75 - 125%/80-120%	5.5%
Nickel, dissolved		If either result < 5 x CRDL: < 1 x CRDL	If sample result < 4 x Spike: 75 - 125%/80-120%	1.2%
Potassium		If both results >5 x CRDL: < 20% If either result < 5 x CRDL: < 1 x CRDL	If sample result < 4 x Spike: 75 - 125%	--
Selenium, total		If both results >5 x CRDL: < 20%	If sample result < 4 x Spike: 75 - 125%/80-120%	14%
Selenium, dissolved		If either result < 5 x CRDL: < 1 x CRDL	If sample result < 4 x Spike: 75 - 125%/80-120%	0.06%
Silver, total		If both results >5 x CRDL: < 20%	If sample result < 4 x Spike: 75 - 125%/80-120%	8.5%
Silver, dissolved		If either result < 5 x CRDL: < 1 x CRDL	If sample result < 4 x Spike: 75 - 125%/80-120%	0.02%

Table B1-7. Phase I surface-water percent recoveries.

Method Group/Analyte	Method	Laboratory Duplicate Percent Recovery ^a	MS/MSD Percent Recovery (CLP/ <i>Quanterra</i>) ^b	MS/MSD RPD (CLP/ <i>Quanterra</i>) ^b
Metals (cont.)				
Sodium		If both results >5 x CRDL: < 20% If either result < 5 x CRDL: < 1 x CRDL	If sample result < 4 x Spike: 75 - 125%	--
Thallium, total		If both results >5 x CRDL: < 20%	If sample result < 4 x Spike: 75 - 125%/80-120%	8%
Thallium, dissolved		If either result < 5 x CRDL: < 1 x CRDL	If sample result < 4 x Spike: 75 - 125%/80-120%	3%
Vanadium (Fume or Dust)		If both results >5 x CRDL: < 20% If either result < 5 x CRDL: < 1 x CRDL	If sample result < 4 x Spike: 75 - 125%	--
Zinc		If both results >5 x CRDL: < 20% If either result < 5 x CRDL: < 1 x CRDL	If sample result < 4 x Spike: 75 - 125%	--
PCB Aroclors	SW-846 Methods 8081A & 8082 or CLP	-- -- -- -- -- -- -- -- --	-- -- -- -- -- -- -- -- --	-- -- -- -- -- -- -- -- --
Pesticides	SW-846 Methods 8081A & 8082 or CLP	-- -- -- -- -- -- -- -- --	-- -- -- 38-127% 40-120% -- -- --	-- -- -- 27% 22% -- --

Table B1-7. Phase I surface-water percent recoveries.

Method Group/Analyte	Method	Laboratory Duplicate Percent Recovery ^a	MS/MSD Percent Recovery (CLP/ <i>Quanterra</i>) ^b	MS/MSD RPD (CLP/ <i>Quanterra</i>) ^b
Pesticides (cont.)				
beta-BHC		--	--	--
Camphechlor		--	--	--
delta-BHC		--	--	--
Dieldrin		--	52-126%	18%
Endosulfan I		--	--	--
Endosulfan II		--	--	--
Endosulfan Sulfate		--	--	--
Endrin		--	56-121%	21%
Endrin Aldehyde		--	--	--
Endrin Ketone		--	--	--
gamma-BHC (Lindane)		--	56-123%	15%
gamma-chlordane		--	--	--
Heptachlor		--	40-131%	20%
Heptachlor epoxide		--	--	--
PAHs and SVOCs	SW-846 Method			
1,1'-Biphenyl	8270C or CLP	--	--	--
1,2,4-Trichlorobenzene		--	--	--
1,2-Benzphenanthracene		--	--	--
1,2-Dichlorobenzene		--	--	--
1,4-Dichlorobenzene		--	--	--
2,2'-oxybis(1-Chloropropane)		--	--	--
2,4,5-Trichlorophenol		--	--	--
2,4,6-Trichlorophenol		--	--	--
2,4-Dichlorophenol		--	--	--
2,4-Dimethylphenol		--	--	--
2,4-Dinitrophenol		--	--	--
2,4-Dinitrotoluene		--	24-96%	38%

Table B1-7. Phase I surface-water percent recoveries.

Method Group/Analyte	Method	Laboratory Duplicate Percent Recovery ^a	MS/MSD Percent Recovery (CLP/ <i>Quanterra</i>) ^b	MS/MSD RPD (CLP/ <i>Quanterra</i>) ^b
<i>PAHs and SVOCs (cont.)</i>				
2,6-Dinitrotoluene		--	--	--
2-Chloronaphthalene		--	--	--
2-Chlorophenol		--	27-123%	40%
2-Methylnaphthalene		--	--	--
2-Methylphenol		--	--	--
2-Nitroaniline		--	--	--
2-Nitrophenol		--	--	--
3,3'-Dichlorobenzidine		--	--	--
3,5,5-Trimethyl-2-cyclohexene-1-one		--	--	--
3-Nitroaniline		--	--	--
4,6-Dinitro-2-methylphenol		--	--	--
4-Bromophenyl phenyl ether		--	--	--
4-Chloro-3-methylphenol		--	23-97%	42%
4-Chlorophenyl phenyl ether		--	--	--
4-Methylphenol		--	--	--
4-Nitrophenol		--	10-80%	50%
Acenaphthene		--	46-118%	31%
Acenaphthylene		--	--	--
Acetophenone		--	--	--
Anthracene		--	--	--
Atrazine		--	--	--
Benzaldehyde		--	--	--
Benzo(a)anthracene		--	--	--
Benzo(a)pyrene		--	--	--
Benzo(b)fluoranthene		--	--	--
Benzo(g,h,i)perylene		--	--	--
Benzo(k)fluoranthene		--	--	--
Benzyl butyl phthalate		--	--	--

Table B1-7. Phase I surface-water percent recoveries.

Method Group/Analyte	Method	Laboratory Duplicate Percent Recovery ^a	MS/MSD Percent Recovery (CLP/ <i>Quanterra</i>) ^b	MS/MSD RPD (CLP/ <i>Quanterra</i>) ^b
<i>PAHs and SVOCs (cont.)</i>				
bis(2-Chloroethoxy)methane		--	--	--
bis(2-Chloroethyl)ether		--	--	--
bis(2-Ethylhexyl)phthalate		--	--	--
Caprolactam		--	--	--
Carbazole		--	--	--
Dibenzo(a,h)anthracene		--	--	--
Dibenzofuran		--	--	--
Diethyl phthalate		--	--	--
Dimethyl phthalate		--	--	--
Di-n-butylphthalate		--	--	--
Di-n-octylphthalate		--	--	--
Fluoranthene		--	--	--
Fluorene		--	--	--
Hexachloro-1,3-butadiene		--	--	--
Hexachlorobenzene		--	--	--
Hexachlorocyclopentadiene		--	--	--
Hexachloroethane		--	--	--
Indeno(1,2,3-cd)pyrene		--	--	--
M-Dichlorobenzene		--	--	--
Naphthalene		--	--	--
Nitrobenzene		--	--	--
N-Nitroso-di-n-propylamine		--	41-116%	38%
N-Nitrosodiphenylamine		--	--	--
P-Chloroaniline		--	--	--
Pentachlorophenol		--	9-103%	50%
Phenanthrene		--	--	--
Phenol		--	12-110%	42%
P-Nitroaniline		--	--	--
Pyrene		--	26-127%	31%

Table B1-7. Phase I surface-water percent recoveries.

Method Group/Analyte	Method	Laboratory Duplicate Percent Recovery ^a	MS/MSD Percent Recovery (CLP/Quanterra) ^b	MS/MSD RPD (CLP/Quanterra) ^b
TPH	Non-halogenated organics using GC/FID (SW-846 8015B Modified)	-- -- -- -- -- --	-- -- -- -- -- --	-- -- -- -- -- --
C5-C8 Aliphatics				--
C9-C10 Aromatics				--
C9-C12 Aliphatics				--
Diesel range organics				--
Unadjusted C5-C8 aliphatics				--
Unadjusted C9-C12 aliphatics				--
Volatiles	SW-846 Method 8260B or CLP			
1,1,1-Trichloroethane		--	--	--
1,1,2,2-Tetrachloroethane		--	--	--
1,1,2-Trichloroethane		--	--	--
1,1-Dichloroethane		--	--	--
1,1-Dichloroethylene		--	61-145%	14%
1,2-Dibromo-3-chloropropane (DBCP)		--	--	--
1,2-Dibromoethane		--	--	--
1,2-Dichloroethane		--	--	--
1,2-Dichloropropane		--	--	--
2-Butanone		--	--	--
4-Methyl-2-pentanone		--	--	--
Acetone		--	--	--
Benzene		--	76-127%	11%
Bromodichloromethane		--	--	--
Bromomethane		--	--	--
Carbon disulfide		--	--	--
Carbon tetrachloride		--	--	--
CFC-11		--	--	--
CFC-12		--	--	--
Chlorinated fluorocarbon (Freon 113)		--	--	--
Chlorobenzene		--	75-130%	13%

Table B1-7. Phase I surface-water percent recoveries.

Method Group/Analyte	Method	Laboratory Duplicate Percent Recovery ^a	MS/MSD Percent Recovery (CLP/Quanterra) ^b	MS/MSD RPD (CLP/Quanterra) ^b
Volatiles (cont.)				
Chlorodibromomethane		--	--	--
Chloroethane		--	--	--
Chloroform		--	--	--
Chloromethane		--	--	--
cis-1,2-Dichloroethene		--	--	--
cis-1,3-Dichloropropene		--	--	--
Cyclohexane		--	--	--
Dichloromethane		--	--	--
Ethylbenzene		--	--	--
Isopropylbenzene		--	--	--
Methyl acetate		--	--	--
Methyl N-butyl ketone		--	--	--
Methyl tert-butyl ether		--	--	--
Methylbenzene		--	--	--
Methylcyclohexane		--	--	--
Styrene (monomer)		--	--	--
Tetrachloroethene		--	--	--
trans-1,2-Dichloroethene		--	--	--
trans-1,3-Dichloropropene		--	--	--
Tribromomethane		--	--	--
Trichloroethylene		--	71-120%	14%
Vinyl Chloride		--	--	--
Xylenes (total)		--	--	--

^a Derived from Calcasieu Estuary Phase I Sampling and Analysis Plan.

^b Derived from Form III's and Form V's from CLP and Quanterra hard copy data packages.

PCBs = polychlorinated biphenyls; PAHs = polycyclic aromatic hydrocarbons; SVOCs = semi-volatile organic compounds; VOCs = volatile organic compounds; TAL = target analyte list;

TPH = total petroleum hydrocarbons; MS/MSD = matrix spike/matrix-spike duplicate; RPD = relative percent difference; CLP = contract laboratory program;

CRDL = contract required quantitation limit.

Table B1-8. Phase II sediment percent recoveries.

Method Group/Analyte	Method	Laboratory Duplicate Percent Recovery ^a	MS/MSD Percent Recovery ^b	MS/MSD RPD ^b
Dioxins/Furans	SW-846 8290 or CLP			
1,2,3,4,6,7,8-HpCDD		< 50%	50 - 150%	--
1,2,3,4,6,7,8-HpCDF		< 50%	50 - 150%	--
1,2,3,4,7,8,9-HpCDF		< 50%	50 - 150%	--
1,2,3,4,7,8-HxCDD		< 50%	50 - 150%	--
1,2,3,4,7,8-HxCDF		< 50%	50 - 150%	--
1,2,3,6,7,8-HxCDD		< 50%	50 - 150%	--
1,2,3,6,7,8-HxCDF		< 50%	50 - 150%	--
1,2,3,7,8,9-HxCDD		< 50%	50 - 150%	--
1,2,3,7,8,9-HxCDF		< 50%	50 - 150%	--
1,2,3,7,8-PeCDD		< 50%	50 - 150%	--
1,2,3,7,8-PeCDF		< 50%	50 - 150%	--
2,3,4,6,7,8-HxCDF		< 50%	50 - 150%	--
2,3,4,7,8-PeCDF		< 50%	50 - 150%	--
2,3,7,8-TCDD		< 50%	50 - 150%	--
2,3,7,8-TCDF		< 50%	50 - 150%	--
OCDD		< 50%	50 - 150%	--
OCDF		< 50%	50 - 150%	--
Total HpCDD		< 50%	50 - 150%	--
Total HpCDF		< 50%	50 - 150%	--
Total HxCDD		< 50%	50 - 150%	--
Total HxCDF		< 50%	50 - 150%	--
Total PeCDD		< 50%	50 - 150%	--
Total PeCDF		< 50%	50 - 150%	--
Total TCDD		< 50%	50 - 150%	--
Total TCDF		< 50%	50 - 150%	--

Table B1-8. Phase II sediment percent recoveries.

Method Group/Analyte	Method	Laboratory Duplicate Percent Recovery ^a	MS/MSD Percent Recovery ^b	MS/MSD RPD ^b
Metals				
Aluminum (Fume or Dust)	SW-846 Methods 6010B/7000/9010B or CLP	If both results >5 x CRDL: < 35% If either result < 5 x CRDL: < 2 x CRDL	If sample result < 4 x Spike: 75 - 125%	--
Antimony		If both results >5 x CRDL: < 35% If either result < 5 x CRDL: < 2 x CRDL	If sample result < 4 x Spike: 75 - 125%	--
Arsenic		If both results >5 x CRDL: < 35% If either result < 5 x CRDL: < 2 x CRDL	If sample result < 4 x Spike: 75 - 125%/80-120%	--
Barium		If both results >5 x CRDL: < 35% If either result < 5 x CRDL: < 2 x CRDL	If sample result < 4 x Spike: 75 - 125%	--
Beryllium		If both results >5 x CRDL: < 35% If either result < 5 x CRDL: < 2 x CRDL	If sample result < 4 x Spike: 75 - 125%	--
Cadmium		If both results >5 x CRDL: < 35% If either result < 5 x CRDL: < 2 x CRDL	If sample result < 4 x Spike: 75 - 125%	--
Calcium		If both results >5 x CRDL: < 35% If either result < 5 x CRDL: < 2 x CRDL	If sample result < 4 x Spike: 75 - 125%	--
Chromium		If both results >5 x CRDL: < 35% If either result < 5 x CRDL: < 2 x CRDL	If sample result < 4 x Spike: 75 - 125%	--
Cobalt		If both results >5 x CRDL: < 35% If either result < 5 x CRDL: < 2 x CRDL	If sample result < 4 x Spike: 75 - 125%	--
Copper		If both results >5 x CRDL: < 35% If either result < 5 x CRDL: < 2 x CRDL	If sample result < 4 x Spike: 75 - 125%	--
Iron		If both results >5 x CRDL: < 35% If either result < 5 x CRDL: < 2 x CRDL	If sample result < 4 x Spike: 75 - 125%	--
Lead		If both results >5 x CRDL: < 35% If either result < 5 x CRDL: < 2 x CRDL	If sample result < 4 x Spike: 75 - 125%	--
Magnesium		If both results >5 x CRDL: < 35% If either result < 5 x CRDL: < 2 x CRDL	If sample result < 4 x Spike: 75 - 125%	--

Table B1-8. Phase II sediment percent recoveries.

Method Group/Analyte	Method	Laboratory Duplicate Percent Recovery ^a	MS/MSD Percent Recovery ^b	MS/MSD RPD ^b
Metals (cont.)				
Manganese		If both results >5 x CRDL: < 35% If either result < 5 x CRDL: < 2 x CRDL	If sample result < 4 x Spike: 75 - 125%	--
Mercury		If both results >5 x CRDL: < 35% If either result < 5 x CRDL: < 2 x CRDL	If sample result < 4 x Spike: 75 - 125%	--
Nickel		If both results >5 x CRDL: < 35% If either result < 5 x CRDL: < 2 x CRDL	If sample result < 4 x Spike: 75 - 125%	--
Potassium		If both results >5 x CRDL: < 35% If either result < 5 x CRDL: < 2 x CRDL	If sample result < 4 x Spike: 75 - 125%	--
Selenium		If both results >5 x CRDL: < 35% If either result < 5 x CRDL: < 2 x CRDL	If sample result < 4 x Spike: 75 - 125%	--
Silver		If both results >5 x CRDL: < 35% If either result < 5 x CRDL: < 2 x CRDL	If sample result < 4 x Spike: 75 - 125%	--
Sodium		If both results >5 x CRDL: < 35% If either result < 5 x CRDL: < 2 x CRDL	If sample result < 4 x Spike: 75 - 125%	--
Thallium		If both results >5 x CRDL: < 35% If either result < 5 x CRDL: < 2 x CRDL	If sample result < 4 x Spike: 75 - 125%	--
Vanadium (Fume or Dust)		If both results >5 x CRDL: < 35% If either result < 5 x CRDL: < 2 x CRDL	If sample result < 4 x Spike: 75 - 125%	--
Zinc		If both results >5 x CRDL: < 35% If either result < 5 x CRDL: < 2 x CRDL	If sample result < 4 x Spike: 75 - 125%	--
PCB Aroclors				
Aroclor-1016	SW-846 Methods 8081A & 8082	--	--	--
Aroclor-1221	or CLP	--	--	--
Aroclor-1232		--	--	--
Aroclor-1242		--	--	--
Aroclor-1248		--	--	--
Aroclor-1254		--	--	--
Aroclor-1260		--	--	--

Table B1-8. Phase II sediment percent recoveries.

Method Group/Analyte	Method	Laboratory Duplicate Percent Recovery ^a	MS/MSD Percent Recovery ^b	MS/MSD RPD ^b
<i>PCB Congeners</i>				
PCB-105		--	--	--
PCB-108		--	--	--
PCB-114		--	--	--
PCB-118		--	--	--
PCB-126		--	--	--
PCB-127		--	--	--
PCB-15		--	--	--
PCB-156		--	--	--
PCB-157		--	--	--
PCB-162		--	--	--
PCB-167		--	--	--
PCB-169		--	--	--
PCB-189		--	--	--
PCB-37		--	--	--
PCB-58		--	--	--
PCB-60		--	--	--
PCB-61/70		--	--	--
PCB-66		--	--	--
PCB-77		--	--	--
PCB-79		--	--	--
PCB-80		--	--	--
PCB-81		--	--	--

Table B1-8. Phase II sediment percent recoveries.

Method Group/Analyte	Method	Laboratory Duplicate Percent Recovery ^a	MS/MSD Percent Recovery ^b	MS/MSD RPD ^b
Pesticides				
	SW-846 Methods			
1,1,1-Trichloro-2,2-bis (p-methoxyphenyl)-ethane	8081A & 8082 or CLP	--	--	--
4,4'-DDD		--	--	--
4,4'-DDE		--	--	--
4,4'-DDT		--	50-150%	--
Aldrin		--	50-150%	--
alpha-BHC		--	--	--
alpha-chlordane		--	--	--
beta-BHC		--	--	--
Camphechlor		--	--	--
delta-BHC		--	--	--
Dieldrin			50-150%	--
Endosulfan I		--	--	--
Endosulfan II		--	--	--
Endosulfan sulfate		--	--	--
Endrin			50-150%	--
Endrin aldehyde		--	--	--
Endrin ketone		--	--	--
gamma-BHC (Lindane)			50-150%	--
gamma-chlordane		--	--	--
Heptachlor			50-150%	--
Heptachlor epoxide		--	--	--
Technical chlordane		--	--	--
PAHs and SVOCs				
	SW-846 Method			
1,1'-Biphenyl	8270C or CLP	--	--	--
1,2,4-Trichlorobenzene		--	--	--
1,2-Benzanthracene		--	--	--
1,2-Dichlorobenzene		--	--	--

Table B1-8. Phase II sediment percent recoveries.

Method Group/Analyte	Method	Laboratory Duplicate Percent Recovery ^a	MS/MSD Percent Recovery ^b	MS/MSD RPD ^b
<i>PAHs and SVOCs (cont.)</i>				
1,4-Dichlorobenzene		--	--	--
2,2'-oxybis(1-Chloropropane)		--	--	--
2,4,5-Trichlorophenol		--	--	--
2,4,6-Trichlorophenol		--	--	--
2,4-Dichlorophenol		--	--	--
2,4-Dimethylphenol		--	--	--
2,4-Dinitrophenol		--	--	--
2,4-Dinitrotoluene		--	44-111%	47%
2,6-Dinitrotoluene		--	--	--
2-Chloronaphthalene		--	--	--
2-Chlorophenol		--	33-95%	50%
2-Methylnaphthalene		--	--	--
2-Methylphenol		--	--	--
2-Nitroaniline		--	--	--
2-Nitrophenol		--	--	--
3,3'-Dichlorobenzidine		--	--	--
3,5,5-Trimethyl-2-cyclohexene-1-one		--	--	--
3-Methylphenol & 4-Methylphenol		--	--	--
3-Nitroaniline		--	--	--
4,6-Dinitro-2-methylphenol		--	--	--
4-Bromophenyl phenyl ether		--	--	--
4-Chloro-3-methylphenol		--	43-106%	33%
4-Chlorophenyl phenyl ether		--	--	--
4-Methylphenol		--	--	--
4-Nitrophenol		--	9-147%	50%
Acenaphthene		--	47-102%	19%
Acenaphthylene		--	--	--

Table B1-8. Phase II sediment percent recoveries.

Method Group/Analyte	Method	Laboratory Duplicate Percent Recovery ^a	MS/MSD Percent Recovery ^b	MS/MSD RPD ^b
<i>PAHs and SVOCs (cont.)</i>				
Acetophenone		--	--	--
Anthracene		--	--	--
Atrazine		--	--	--
Benzaldehyde		--	--	--
Benzo(a)anthracene		--	--	--
Benzo(a)pyrene		--	--	--
Benzo(b)fluoranthene		--	--	--
Benzo(g,h,i)perylene		--	--	--
Benzo(k)fluoranthene		--	--	--
Benzoic acid		--	--	--
Benzyl alcohol		--	--	--
Benzyl butyl phthalate		--	--	--
bis(2-Chloroethoxy)methane		--	--	--
bis(2-Chloroethyl)ether		--	--	--
bis(2-chloroisopropyl)ether		--	--	--
bis(2-Ethylhexyl)phthalate		--	--	--
Caprolactam		--	--	--
Carbazole		--	--	--
Dibenzo(a,h)anthracene		--	--	--
Dibenzofuran		--	--	--
Diethyl phthalate		--	--	--
Dimethyl phthalate		--	--	--
Di-n-butylphthalate		--	--	--
Di-n-octylphthalate		--	--	--
Fluoranthene		--	--	--
Fluorene		--	--	--
Hexachloro-1,3-butadiene		--	--	--
Hexachlorobenzene		--	--	--

Table B1-8. Phase II sediment percent recoveries.

Method Group/Analyte	Method	Laboratory Duplicate Percent Recovery ^a	MS/MSD Percent Recovery ^b	MS/MSD RPD ^b
<i>PAHs and SVOCs (cont.)</i>				
Hexachlorocyclopentadiene		--	--	--
Hexachloroethane		--	--	--
Indeno(1,2,3-cd)pyrene		--	--	--
M-Dichlorobenzene		--	--	--
Naphthalene		--	--	--
Nitrobenzene		--	--	--
N-Nitroso-di-n-propylamine		--	26-119%	38%
N-Nitrosodiphenylamine		--	--	--
P-Chloroaniline		--	--	--
Pentachlorophenol		--	1-146%	47%
Phenanthrene		--	--	--
Phenol		--	18-101%	35%
P-Nitroaniline		--	--	--
Pyrene		--	24-143%	36%
Pyridine		--	--	--

^a Derived from Calcasieu Estuary Phase II Sampling and Analysis Plan.

^b Derived from Form III's from ALTA and AATS hard copy data packages.

PCBs = polychlorinated biphenyls; PAHs = polycyclic aromatic hydrocarbons; SVOCs = semi-volatile organic compounds; TAL = target analyte list; TPH = total petroleum hydrocarbons; AVS/SEM = acid volatile sulfide/simultaneously extracted metal; MS/MSD = matrix spike/matrix-spike duplicate; RPD = relative percent difference; CLP = contract laboratory program; CRDL = contract required quantitation limit; ALTA = ALTA Laboratories; ACZ = ACZ Laboratories; AATS = American Analytical and Technical Services Inc.

Table B1-9. Phase II tissue percent recoveries.

Method Group/Analyte	Method	Laboratory Duplicate Percent Recovery ^a	MS/MSD Percent Recovery (AATS/ <i>EnChem</i>) ^b	MS/MSD RPD (AATS) ^b
Dioxins/Furans	SW-846 8290 or CLP			
1,2,3,4,6,7,8-HpCDD		< 50%	50 - 150%	--
1,2,3,4,6,7,8-HpCDF		< 50%	50 - 150%	--
1,2,3,4,7,8,9-HpCDF		< 50%	50 - 150%	--
1,2,3,4,7,8-HxCDD		< 50%	50 - 150%	--
1,2,3,4,7,8-HxCDF		< 50%	50 - 150%	--
1,2,3,6,7,8-HxCDD		< 50%	50 - 150%	--
1,2,3,6,7,8-HxCDF		< 50%	50 - 150%	--
1,2,3,7,8,9-HxCDD		< 50%	50 - 150%	--
1,2,3,7,8,9-HxCDF		< 50%	50 - 150%	--
1,2,3,7,8-PeCDD		< 50%	50 - 150%	--
1,2,3,7,8-PeCDF		< 50%	50 - 150%	--
2,3,4,6,7,8-HxCDF		< 50%	50 - 150%	--
2,3,4,7,8-PeCDF		< 50%	50 - 150%	--
2,3,7,8-TCDD		< 50%	50 - 150%	--
2,3,7,8-TCDF		< 50%	50 - 150%	--
OCDD		< 50%	50 - 150%	--
OCDF		< 50%	50 - 150%	--
Total HpCDD		< 50%	50 - 150%	--
Total HpCDF		< 50%	50 - 150%	--
Total HxCDD		< 50%	50 - 150%	--
Total HxCDF		< 50%	50 - 150%	--
Total PeCDD		< 50%	50 - 150%	--
Total PeCDF		< 50%	50 - 150%	--
Total TCDD		< 50%	50 - 150%	--
Total TCDF		< 50%	50 - 150%	--
Total Dichloro biphenyls		< 50%	50 - 150%	--
Total Hepta-Dioxins		< 50%	50 - 150%	--
Total Hepta-Furans		< 50%	50 - 150%	--

Table B1-9. Phase II tissue percent recoveries.

Method Group/Analyte	Method	Laboratory Duplicate Percent Recovery ^a	MS/MSD Percent Recovery (AATS/ <i>EnChem</i>) ^b	MS/MSD RPD (AATS) ^b
Dioxins/Furans (cont.)				
Total Heptachloro biphenyls		< 50%	50 - 150%	--
Total Hexa-Dioxins		< 50%	50 - 150%	--
Total Hexa-Furans		< 50%	50 - 150%	--
Total Hexachloro biphenyls		< 50%	50 - 150%	--
Total Monochloro biphenyls		< 50%	50 - 150%	--
Total Nonachloro biphenyls		< 50%	50 - 150%	--
Total Octachloro biphenyls		< 50%	50 - 150%	--
Total Penta-Dioxins		< 50%	50 - 150%	--
Total Penta-Furans		< 50%	50 - 150%	--
Total Pentachloro biphenyls		< 50%	50 - 150%	--
Total Tetra-Dioxins		< 50%	50 - 150%	--
Total Tetra-Furans		< 50%	50 - 150%	--
Total Tetrachloro biphenyls		< 50%	50 - 150%	--
Total Trichloro biphenyls		< 50%	50 - 150%	--
Metals				
SW-846 Methods				
Aluminum (Fume or Dust)	6010B/7000/9010B	--	75-125%/61-114%	--
Antimony	or CLP	--	75-125%	--
Arsenic		--	75-125%/56-109%	--
Barium		--	75-125%/57-112%	--
Beryllium		--	75-125%/57-110%	--
Cadmium		--	75-125%/55-110%	--
Calcium		--	75-125%	--
Chromium		--	75-125%/55-108%	--
Cobalt		--	75-125%/59-110%	--
Copper		--	75-125%/55-108%	--
Iron		--	75-125%	--
Lead		--	75-125%/52-111%	--

Table B1-9. Phase II tissue percent recoveries.

Method Group/Analyte	Method	Laboratory Duplicate Percent Recovery ^a	MS/MSD Percent Recovery (AATS/ <i>EnChem</i>) ^b	MS/MSD RPD (AATS) ^b
Metals (cont.)				
Magnesium		--	75-125%/57-112%	--
Manganese		--	75-125%/57-110%	--
Mercury		--	75-125% (AATS & ACZ)/64-126%	--
Methyl mercury		--	--	--
Nickel		--	75-125%/53-115%	--
Potassium		--	75-125%	--
Selenium		--	75-125%/54-117%	--
Silver		--	75-125%	--
Sodium		--	75-125%/31-132%	--
Thallium		--	75-125%	--
Vanadium (Fume or Dust)		--	75-125%/55-111%	--
Zinc		--	75-125%/55-115%	--
PCB Aroclors				
Aroclor-1016	SW-846 Methods 8081A & 8082	--	--	--
Aroclor-1221	or CLP	--	--	--
Aroclor-1232		--	--	--
Aroclor-1242		--	--	--
Aroclor-1248		--	--	--
Aroclor-1254		--	--	--
Aroclor-1260		--	--	--
PCB Congeners				
PCB-1		--	--	--
PCB-10		--	--	--
PCB-100/93		--	--	--
PCB-101/90		--	--	--
PCB-102/93		--	--	--

Table B1-9. Phase II tissue percent recoveries.

Method Group/Analyte	Method	Laboratory Duplicate Percent Recovery ^a	MS/MSD Percent Recovery (AATS/ <i>EnChem</i>) ^b	MS/MSD RPD (AATS) ^b
<i>PCB Congeners (cont.)</i>				
PCB-103		--	--	--
PCB-104		--	--	--
PCB-105		--	--	--
PCB-106		--	--	--
PCB-107		--	--	--
PCB-108		--	--	--
PCB-109		--	--	--
PCB-11		--	--	--
PCB-110/77		--	--	--
PCB-111		--	--	--
PCB-112		--	--	--
PCB-113/90		--	--	--
PCB-114		--	--	--
PCB-115/110		--	--	--
PCB-116/85		--	--	--
PCB-117/85		--	--	--
PCB-118		--	--	--
PCB-119/86		--	--	--
PCB-12		--	--	--
PCB-120		--	--	--
PCB-121		--	--	--
PCB-122		--	--	--
PCB-123		--	--	--
PCB-124/107		--	--	--
PCB-125/86		--	--	--
PCB-126		--	--	--
PCB-127		--	--	--
PCB-128		--	--	--

Table B1-9. Phase II tissue percent recoveries.

Method Group/Analyte	Method	Laboratory Duplicate Percent Recovery ^a	MS/MSD Percent Recovery (AATS/ <i>EnChem</i>) ^b	MS/MSD RPD (AATS) ^b
<i>PCB Congeners (cont.)</i>				
PCB-129		--	--	--
PCB-13/12		--	--	--
PCB-130		--	--	--
PCB-131		--	--	--
PCB-132		--	--	--
PCB-133		--	--	--
PCB-134		--	--	--
PCB-135		--	--	--
PCB-136		--	--	--
PCB-137		--	--	--
PCB-138 /160		--	--	--
PCB-139		--	--	--
PCB-14		--	--	--
PCB-140/139		--	--	--
PCB-141		--	--	--
PCB-142		--	--	--
PCB-143/134		--	--	--
PCB-144		--	--	--
PCB-145		--	--	--
PCB-146		--	--	--
PCB-147		--	--	--
PCB-148		--	--	--
PCB-149/147		--	--	--
PCB-15		--	--	--
PCB-150		--	--	--
PCB-151/135		--	--	--
PCB-152		--	--	--
PCB-153/132		--	--	--

Table B1-9. Phase II tissue percent recoveries.

Method Group/Analyte	Method	Laboratory Duplicate Percent Recovery ^a	MS/MSD Percent Recovery (AATS/ <i>EnChem</i>) ^b	MS/MSD RPD (AATS) ^b
<i>PCB Congeners (cont.)</i>				
PCB-154/135		--	--	--
PCB-155		--	--	--
PCB-156		--	--	--
PCB-157		--	--	--
PCB-158		--	--	--
PCB-159		--	--	--
PCB-16		--	--	--
PCB-160/129		--	--	--
PCB-161		--	--	--
PCB-162		--	--	--
PCB-163/129		--	--	--
PCB-164		--	--	--
PCB-165		--	--	--
PCB-166/128		--	--	--
PCB-167		--	--	--
PCB-168/153		--	--	--
PCB-169		--	--	--
PCB-17		--	--	--
PCB-170/190		--	--	--
PCB-171		--	--	--
PCB-172		--	--	--
PCB-173/171		--	--	--
PCB-174		--	--	--
PCB-175		--	--	--
PCB-176		--	--	--
PCB-177		--	--	--
PCB-178		--	--	--
PCB-179		--	--	--

Table B1-9. Phase II tissue percent recoveries.

Method Group/Analyte	Method	Laboratory Duplicate Percent Recovery ^a	MS/MSD Percent Recovery (AATS/ <i>EnChem</i>) ^b	MS/MSD RPD (AATS) ^b
<i>PCB Congeners (cont.)</i>				
PCB-18/17		--	--	--
PCB-180		--	--	--
PCB-181		--	--	--
PCB-182		--	--	--
PCB-183		--	--	--
PCB-184		--	--	--
PCB-185/183		--	--	--
PCB-186		--	--	--
PCB-187		--	--	--
PCB-188		--	--	--
PCB-189		--	--	--
PCB-19		--	--	--
PCB-190		--	--	--
PCB-191		--	--	--
PCB-192		--	--	--
PCB-193/180		--	--	--
PCB-194		--	--	--
PCB-195/208		--	--	--
PCB-196		--	--	--
PCB-197		--	--	--
PCB-198		--	--	--
PCB-199/198		--	--	--
PCB-2		--	--	--
PCB-20		--	--	--
PCB-200/197		--	--	--
PCB-201/157/173		--	--	--
PCB-202		--	--	--
PCB-203		--	--	--

Table B1-9. Phase II tissue percent recoveries.

Method Group/Analyte	Method	Laboratory Duplicate Percent Recovery ^a	MS/MSD Percent Recovery (AATS/ <i>EnChem</i>) ^b	MS/MSD RPD (AATS) ^b
<i>PCB Congeners (cont.)</i>				
PCB-204		--	--	--
PCB-205		--	--	--
PCB-206		--	--	--
PCB-207		--	--	--
PCB-208		--	--	--
PCB-209		--	--	--
PCB-21		--	--	--
PCB-22		--	--	--
PCB-23		--	--	--
PCB-24		--	--	--
PCB-25		--	--	--
PCB-26		--	--	--
PCB-27		--	--	--
PCB-28/20		--	--	--
PCB-29/26		--	--	--
PCB-3		--	--	--
PCB-30/18		--	--	--
PCB-31		--	--	--
PCB-32		--	--	--
PCB-33/21		--	--	--
PCB-34		--	--	--
PCB-35		--	--	--
PCB-36		--	--	--
PCB-37		--	--	--
PCB-38		--	--	--
PCB-39		--	--	--
PCB-4		--	--	--
PCB-40		--	--	--

Table B1-9. Phase II tissue percent recoveries.

Method Group/Analyte	Method	Laboratory Duplicate Percent Recovery ^a	MS/MSD Percent Recovery (AATS/ <i>EnChem</i>) ^b	MS/MSD RPD (AATS) ^b
<i>PCB Congeners (cont.)</i>				
PCB-41/40		--	--	--
PCB-42		--	--	--
PCB-43		--	--	--
PCB-44		--	--	--
PCB-45		--	--	--
PCB-46		--	--	--
PCB-47/44		--	--	--
PCB-48		--	--	--
PCB-49		--	--	--
PCB-5		--	--	--
PCB-50		--	--	--
PCB-51/45		--	--	--
PCB-52		--	--	--
PCB-53/50		--	--	--
PCB-54		--	--	--
PCB-55		--	--	--
PCB-56		--	--	--
PCB-57		--	--	--
PCB-58		--	--	--
PCB-59		--	--	--
PCB-6		--	--	--
PCB-60		--	--	--
PCB-61/70		--	--	--
PCB-62/59		--	--	--
PCB-63		--	--	--
PCB-64		--	--	--
PCB-65/44		--	--	--
PCB-66		--	--	--

Table B1-9. Phase II tissue percent recoveries.

Method Group/Analyte	Method	Laboratory Duplicate Percent Recovery ^a	MS/MSD Percent Recovery (AATS/ <i>EnChem</i>) ^b	MS/MSD RPD (AATS) ^b
<i>PCB Congeners (cont.)</i>				
PCB-67		--	--	--
PCB-68		--	--	--
PCB-69/49		--	--	--
PCB-7		--	--	--
PCB-70/61		--	--	--
PCB-71/40		--	--	--
PCB-72		--	--	--
PCB-73		--	--	--
PCB-74/61		--	--	--
PCB-75/59		--	--	--
PCB-76/61		--	--	--
PCB-77		--	--	--
PCB-78		--	--	--
PCB-79		--	--	--
PCB-8/5		--	--	--
PCB-80		--	--	--
PCB-81		--	--	--
PCB-82		--	--	--
PCB-83		--	--	--
PCB-84		--	--	--
PCB-85		--	--	--
PCB-86		--	--	--
PCB-87/115		--	--	--
PCB-88		--	--	--
PCB-89		--	--	--
PCB-9		--	--	--
PCB-90		--	--	--
PCB-91/88		--	--	--

Table B1-9. Phase II tissue percent recoveries.

Method Group/Analyte	Method	Laboratory Duplicate Percent Recovery ^a	MS/MSD Percent Recovery (AATS/ <i>EnChem</i>) ^b	MS/MSD RPD (AATS) ^b
<i>PCB Congeners (cont.)</i>				
PCB-92		--	--	--
PCB-93		--	--	--
PCB-94		--	--	--
PCB-95/93		--	--	--
PCB-96		--	--	--
PCB-97/86		--	--	--
PCB-98/93		--	--	--
PCB-99/83		--	--	--
Total PCBs		--	--	--
Pesticides				
SW-846 Methods				
1,1,1-Trichloro-2,2-bis (p-methoxyphenyl)-ethane	8081A & 8082	--	--	--
4,4'-DDD	or CLP	--	--	--
4,4'-DDE		--	--	--
4,4'-DDT		--	50-150%	--
Aldrin		--	50-150%	--
alpha-BHC		--	--	--
alpha-chlordane		--	--	--
beta-BHC		--	--	--
Camphechlor		--	--	--
delta-BHC		--	--	--
Dieldrin		--	50-150%	--
Endosulfan I		--	--	--
Endosulfan II		--	--	--
Endosulfan sulfate		--	--	--
Endrin		--	50-150%	--
Endrin aldehyde		--	--	--
Endrin ketone		--	--	--

Table B1-9. Phase II tissue percent recoveries.

Method Group/Analyte	Method	Laboratory Duplicate Percent Recovery ^a	MS/MSD Percent Recovery (AATS/ <i>EnChem</i>) ^b	MS/MSD RPD (AATS) ^b
<i>Pesticides (cont.)</i>				
gamma-BHC (Lindane)		--	50-150%	--
gamma-chlordane		--	--	--
Heptachlor		--	50-150%	--
Heptachlor epoxide		--	--	--
<i>PAHs and SVOCs</i>	SW-846 Method 8270C or CLP			
1,1'-Biphenyl		--	--	--
1,2,4-Trichlorobenzene		--	--	--
1,2-Benzanthracene		--	50-140%	--
1,2-Dichlorobenzene		--	--	--
1,4-Dichlorobenzene		--	--	--
1-Methylnaphthalene		--	50-140%	--
2,2'-oxybis(1-Chloropropane)		--	--	--
2,4,5-Trichlorophenol		--	--	--
2,4,6-Trichlorophenol		--	--	--
2,4-Dichlorophenol		--	--	--
2,4-Dimethylphenol		--	--	--
2,4-Dinitrophenol		--	--	--
2,4-Dinitrotoluene		--	44-111%	47%
2,6-Dinitrotoluene		--	--	--
2-Chloronaphthalene		--	--	--
2-Chlorophenol		--	33-95%	50%
2-Methylnaphthalene		--	50-140%	--
2-Methylphenol		--	--	--
2-Nitroaniline		--	--	--
2-Nitrophenol		--	--	--
3,3'-Dichlorobenzidine		--	--	--
3,5,5-Trimethyl-2-cyclohexene-1-one		--	--	--

Table B1-9. Phase II tissue percent recoveries.

Method Group/Analyte	Method	Laboratory Duplicate Percent Recovery ^a	MS/MSD Percent Recovery (AATS/ <i>EnChem</i>) ^b	MS/MSD RPD (AATS) ^b
<i>PAHs and SVOCs (cont.)</i>				
3-Nitroaniline		--	--	--
4,6-Dinitro-2-methylphenol		--	--	--
4-Bromophenyl phenyl ether		--	--	--
4-Chloro-3-methylphenol		--	43-106%	33%
4-Chlorophenyl phenyl ether		--	--	--
4-Methylphenol		--	--	--
4-Nitrophenol		--	9-147%	50%
Acenaphthene		--	47-102%/50-140%	19%
Acenaphthylene		--	50-140%	--
Acetophenone		--	--	--
Anthracene		--	50-140%	--
Atrazine		--	--	--
Benzaldehyde		--	--	--
Benzo(a)anthracene		--	50-140%	--
Benzo(a)pyrene		--	50-140%	--
Benzo(b)fluoranthene		--	50-140%	--
Benzo(g,h,i)perylene		--	50-140%	--
Benzo(k)fluoranthene		--	50-140%	--
Benzyl Butyl Phthalate		--	--	--
bis(2-Chloroethoxy)methane		--	--	--
bis(2-Chloroethyl)ether		--	--	--
bis(2-Ethylhexyl)phthalate		--	--	--
Caprolactam		--	--	--
Carbazole		--	--	--
Dibenzo(a,h)anthracene		--	50-140%	--
Dibenzofuran		--	--	--
Diethyl phthalate		--	--	--
Dimethyl phthalate		--	--	--

Table B1-9. Phase II tissue percent recoveries.

Method Group/Analyte	Method	Laboratory Duplicate Percent Recovery^a	MS/MSD Percent Recovery (AATS/<i>EnChem</i>)^b	MS/MSD RPD (AATS)^b
<i>PAHs and SVOCs (cont.)</i>				
Di-n-butylphthalate	--	--	--	--
Di-n-octylphthalate	--	--	--	--
Fluoranthene	--	50-140%	--	--
Fluorene	--	50-140%	--	--
Hexachloro-1,3-butadiene	--	--	--	--
Hexachlorobenzene	--	--	--	--
Hexachlorocyclopentadiene	--	--	--	--
Hexachloroethane	--	--	--	--
Indeno(1,2,3-cd)pyrene	--	50-140%	--	--
M-Dichlorobenzene	--	--	--	--
Naphthalene	--	50-140%	--	--
Nitrobenzene	--	--	--	--
N-Nitroso-di-n-propylamine	--	26-119%	38%	
N-Nitrosodiphenylamine	--	--	--	
P-Chloroaniline	--	--	--	
Pentachlorophenol	--	1-146%	47%	
Phenanthrene	--	50-140%	--	
Phenol	--	18-101%	35%	
P-Nitroaniline	--	--	--	
Pyrene	--	24-143%/50-140%	36%	

^a Derived from Calcasieu Estuary Phase II Sampling and Analysis Plan.^b Derived from Form III's from AATS and EnChem hard copy data packages.^c Derived from Calcasieu Estuary Database Cross Reference Tables

PCBs = polychlorinated biphenyls; PAHs = polycyclic aromatic hydrocarbons; SVOCs = semi-volatile organic compounds; TAL = target analyte list;

TPH = total petroleum hydrocarbons; MS/MSD = matrix spike/matrix-spike duplicate; RPD = relative percent difference; CLP = contract laboratory program;

AATS = American Analytical and Technical Services; ACZ = ACZ Laboratories Inc.; EnChem = EnChem Laboratories.

Table B1-10. Phase II pore-water percent recoveries.

Method Group/Analyte	Methods	Laboratory Duplicate Percent Recovery ^a	MS/MSD Percent Recovery ^b	MS/MSD RPD ^b
<i>Conventional Variables/Nutrients</i>				
Nitrogen, as ammonia		--	--	--
Conductivity		--	--	--
Dissolved oxygen		--	--	--
Hardness, as CaCO ₃		--	--	--
Hydrogen sulfide		--	--	--
Mean dissolved organic carbon		--	--	--
pH		--	--	--
Salinity		--	--	--
Total alkalinity		--	--	--
Unionized ammonia		--	--	--
<i>Metals</i>				
Cadmium	SW-846 Methods 6010B/7000/9010B or CLP	If both results >5 x CRDL: < 20% If either result < 5 x CRDL: < 1 x CRDL	If sample result < 4 x Spike: 75 - 125%	--
Copper		If both results >5 x CRDL: < 20% If either result < 5 x CRDL: < 1 x CRDL	If sample result < 4 x Spike: 75 - 125%	--
Lead		If both results >5 x CRDL: < 20% If either result < 5 x CRDL: < 1 x CRDL	If sample result < 4 x Spike: 75 - 125%	--
Nickel		If both results >5 x CRDL: < 20% If either result < 5 x CRDL: < 1 x CRDL	If sample result < 4 x Spike: 75 - 125%	--
Silver		If both results >5 x CRDL: < 20% If either result < 5 x CRDL: < 1 x CRDL	If sample result < 4 x Spike: 75 - 125%	--
Zinc		If both results >5 x CRDL: < 20% If either result < 5 x CRDL: < 1 x CRDL	If sample result < 4 x Spike: 75 - 125%	--

Table B1-10. Phase II pore-water percent recoveries.

Method Group/Analyte	Methods	Laboratory Duplicate Percent Recovery ^a	MS/MSD Percent Recovery ^b	MS/MSD RPD ^b
<i>PCB Aroclors</i>	SW-846 Methods			
Aroclor-1016	8081A & 8082	--	--	--
Aroclor-1221	or CLP	--	--	--
Aroclor-1232		--	--	--
Aroclor-1242		--	--	--
Aroclor-1248		--	--	--
Aroclor-1254		--	--	--
Aroclor-1260		--	--	--
<i>PCB Congeners</i>	SW-846 Methods			
PCB-101/90	8081A & 8082	--	--	--
PCB-105	or CLP	--	--	--
PCB-110/77		--	--	--
PCB-118		--	--	--
PCB-128		--	--	--
PCB-138 /160		--	--	--
PCB-153/132		--	--	--
PCB-170/190		--	--	--
PCB-18/17		--	--	--
PCB-180		--	--	--
PCB-187		--	--	--
PCB-195/208		--	--	--
PCB-201/157/173		--	--	--
PCB-206		--	--	--
PCB-209		--	--	--
PCB-28/20		--	--	--
PCB-29/26		--	--	--
PCB-44		--	--	--
PCB-52		--	--	--

Table B1-10. Phase II pore-water percent recoveries.

Method Group/Analyte	Methods	Laboratory Duplicate Percent Recovery ^a	MS/MSD Percent Recovery ^b	MS/MSD RPD ^b
<i>PCB Congeners (cont.)</i>				
PCB-66		--	--	--
PCB-8/5		--	--	--
PCB-87/115		--	--	--
Pesticides				
1,1,1-Trichloro-2,2-bis (p-methoxyphenyl)-ethane	SW-846 Methods 8081A & 8082	--	--	--
2,4' DDD	or CLP	--	--	--
2,4' DDE		--	--	--
2,4' DDT		--	--	--
4,4'-DDD		--	--	--
4,4'-DDE		--	--	--
4,4'-DDT		--	50-150%	--
Aldrin		--	50-150%	--
alpha-BHC		--	--	--
alpha-chlordane		--	--	--
beta-BHC		--	--	--
Camphechlor		--	--	--
Chlorpyrifos		--	--	--
Cis-nonachlor		--	--	--
delta-BHC		--	--	--
Dieldrin		--	50-150%	--
Endosulfan I		--	--	--
Endosulfan II		--	--	--
Endosulfan sulfate		--	--	--
Endrin		--	50-150%	--
Endrin aldehyde		--	--	--
Endrin ketone		--	--	--
gamma-BHC (Lindane)		--	50-150%	--

Table B1-10. Phase II pore-water percent recoveries.

Method Group/Analyte	Methods	Laboratory Duplicate Percent Recovery ^a	MS/MSD Percent Recovery ^b	MS/MSD RPD ^b
<i>Pesticides (cont.)</i>				
gamma-chlordane		--	--	--
Heptachlor		--	50-150%	--
Heptachlor epoxide		--	--	--
Mirex		--	--	--
Oxychlordane		--	--	--
Pentachloroanisole		--	--	--
Pentachlorobenzene		--	--	--
Tetrachlorobenzene 1,2,3,4		--	--	--
Trans-nonachlor		--	--	--
<i>PAHs and SVOCs</i>	SW-846 Method 8270C or CLP			
1,1'-Biphenyl		--	--	--
1,2,4,5-Tetrachlorobenzene		--	--	--
1,2-Benzphenanthracene		--	--	--
1,6,7-Trimethylnaphthalene		--	--	--
1-Methylnaphthalene		--	--	--
1-Methylphenanthrene		--	--	--
2,6-Dimethylnaphthalene		--	--	--
2-Methylnaphthalene		--	--	--
Acenaphthene		--	47-102%	19%
Acenaphthylene		--	--	--
Anthracene		--	--	--
Benzo(a)anthracene		--	--	--
Benzo(a)pyrene		--	--	--
Benzo(b)fluoranthene		--	--	--
Benzo(e)pyrene		--	--	--
Benzo(g,h,i)perylene		--	--	--
Benzo(k)fluoranthene		--	--	--

Table B1-10. Phase II pore-water percent recoveries.

Method Group/Analyte	Methods	Laboratory Duplicate Percent Recovery ^a	MS/MSD Percent Recovery ^b	MS/MSD RPD ^b
<i>PAHs and SVOCs (cont.)</i>				
Dibenzo(a,h)anthracene		--	--	--
Dibenzothiophene		--	--	--
Fluoranthene		--	--	--
Fluorene		--	--	--
Hexachloro-1,3-butadiene		--	--	--
Hexachlorobenzene		--	--	--
Indeno(1,2,3-cd)pyrene		--	--	--
Naphthalene		--	--	--
Perylene		--	--	--
Phenanthrene		--	--	--
Pyrene		--	24-143%	36%

^a Derived from Calcasieu Estuary Phase II Sampling and Analysis Plan.

^b Derived from Form III's from AATS hard copy data packages.

PCBs = polychlorinated biphenyls; PAHs = polycyclic aromatic hydrocarbons; SVOCs = semi-volatile organic compounds; TAL = target analyte list;

TPH = total petroleum hydrocarbons; MS/MSD = matrix spike/matrix-spike duplicate; RPD = relative percent difference; CLP = contract laboratory program;

CRDL = contract required quantitation limit; AATS = American Analytical and Technical Services; ACZ = ACZ Laboratories Inc.

Table B1-11. Sediment target and achieved detection limits.

Method Group/Analyte	Target DL Phase I ^a	Units	DL Range Phase I ^b	Units	Target DL Phase II ^c	Units	DL Range Phase II ^b	Units
Dioxins/Furans								
1,2,3,4,6,7,8-HxCDF	--		0.099-110	pg/g	--		0.317-0.654	pg/g
1,2,3,4,7,8,9-HxCDF	--		0.044-7.7	pg/g	--		0.426-1.65	pg/g
1,2,3,4,7,8-HxCDD	--		0.13-79	pg/g	--		0.654-71.2	pg/g
1,2,3,4,7,8-HxCDF	--		0.18-45	pg/g	--		0.197-2.43	pg/g
1,2,3,6,7,8-HxCDD	--		0.4-9.9	pg/g	--		0.723-19.3	pg/g
1,2,3,6,7,8-HxCDF	--		0.049-12	pg/g	--		0.219-2.28	pg/g
1,2,3,7,8,9-HxCDD	--		0.59-63	pg/g	--		0.654-39.6	pg/g
1,2,3,7,8,9-HxCDF	--		0.051-8.8	pg/g	--		0.241-2.66	pg/g
1,2,3,7,8-PeCDD	--		0.22-67	pg/g	--		0.477-3.29	pg/g
1,2,3,7,8-PeCDF	--		0.27-13	pg/g	--		0.272-2.66	pg/g
2,3,4,6,7,8-HxCDF	--		0.044-11	pg/g	--		0.241-2.37	pg/g
2,3,4,7,8-PeCDF	--		0.21-8.8	pg/g	--		0.275-2.8	pg/g
2,3,7,8-TCDD	--		0.11-4	pg/g	2	pg/g	0.0927-0.951	pg/g
2,3,7,8-TCDF	--		0.23-3.9	pg/g	2	pg/g	0.182-0.944	pg/g
OCDF	--		0.21-760	pg/g	--		6.33-6.33	pg/g
Total HpCDD	--		360-360	pg/g	--		0.366-0.811	pg/g
Total HpCDF	--		0.099-7.4	pg/g	--		--	
Total HxCDD	--		2.7-3.2	pg/g	--		--	
Total HxCDF	--		0.19-9.2	pg/g	--		0.239-2.42	pg/g
Total PeCDD	--		0.5-93	pg/g	--		2.26-2.26	pg/g
Total PeCDF	--		0.27-10	pg/g	--		0.273-2.37	pg/g
Total TCDD	--		0.45-2.8	pg/g	--		0.246-0.394	pg/g
Total TCDF	--		0.3-1.6	pg/g	--		0.182-0.944	pg/g
Herbicides								
2,2-Dichloropropionic acid	--		48-810	µg/kg	--		--	
2,4,5-T	--		24-410	µg/kg	--		--	
2,4,5-TP (Silvex)	--		24-410	µg/kg	--		--	

Table B1-11. Sediment target and achieved detection limits.

Method Group/Analyte	Target DL Phase I ^a	Units	DL Range Phase I ^b	Units	Target DL Phase II ^c	Units	DL Range Phase II ^b	Units
<i>Herbicides (cont.)</i>								
2,4-D	--		97-1600	µg/kg	--		--	
2,4-DB	--		97-1600	µg/kg	--		--	
Dicamba	--		48-810	µg/kg	--		--	
Dichlorprop	--		97-1600	µg/kg	--		--	
Dinitrobutyl phenol	--		14-240	µg/kg	--		--	
MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	--		9700-160000	µg/kg	--		--	
Mecoprop	--		9700-160000	µg/kg	--		--	
<i>Metals</i>								
Antimony	2	mg/kg	0.54-47.7	mg/kg	--		0.02-7.86	mg/kg
Arsenic	8.2	mg/kg	0.3-5.4	mg/kg	0.100	mg/kg	0.7-0.7	mg/kg
Beryllium	--		0.05-2.6	mg/kg	--		0.3-0.41	mg/kg
Cadmium	1.2	mg/kg	0.08-3.9	mg/kg	--		0.04-0.41	mg/kg
Calcium	--		592-3700	mg/kg	--		--	
Chromium	81	mg/kg	1.4-13.6	mg/kg	0.100	mg/kg	--	
Cobalt	--		0.56-11.9	mg/kg	--		1.2-1.2	mg/kg
Copper	34	mg/kg	1.9-65.7	mg/kg	0.100	mg/kg	--	
Cyanide	--		0.05-3.1	mg/kg	--		--	
Iron	20000	mg/kg	1320-25900	mg/kg	--		3260-4860	mg/kg
Lead	46.7	mg/kg	3.8-74.9	mg/kg	0.100	mg/kg	--	
Magnesium	--		389-389	mg/kg	--		--	
Manganese	0.46	mg/kg	18.6-108	mg/kg	--		--	
Mercury	0.15	mg/kg	0.06-0.71	mg/kg	0.005	mg/kg	0.0099-0.5	mg/kg
Methyl mercury	--		--		--		0.00049-0.0012	mg/kg
Nickel	20.9	mg/kg	1.4-38.7	mg/kg	--		1.2-1.2	mg/kg
Potassium	--		166-2690	mg/kg	--		--	
Selenium	--		0.16-5.9	mg/kg	--		0.05-0.7	mg/kg
Silver	1	mg/kg	0.1-5.1	mg/kg	--		0.001-1.31	mg/kg

Table B1-11. Sediment target and achieved detection limits.

Method Group/Analyte	Target DL Phase I ^a	Units	DL Range Phase I ^b	Units	Target DL Phase II ^c	Units	DL Range Phase II ^b	Units
Metals (cont.)								
Sodium	--		1990-19400	mg/kg	--		--	
Thallium	--		0.26-8.4	mg/kg	--		0.03-3.1	mg/kg
Vanadium (Fume or Dust)	--		3.5-17.3	mg/kg	--		1.9-1.9	mg/kg
Zinc	150	mg/kg	8-347	mg/kg	0.500	mg/kg	11.4-13.2	mg/kg
PAHs								
1,1'-Biphenyl	--		180-280000	µg/kg	--		0.051-14.15	mg/kg
1,2-Benzphenanthracene	384	µg/kg	180-190000	µg/kg	--		0.016-6.9	mg/kg
2-Methylnaphthalene	70	µg/kg	110-190000	µg/kg	0.01	mg/kg	0.009-6.9	mg/kg
Acenaphthene	16	µg/kg	110-280000	µg/kg	--		0.008-6.9	mg/kg
Acenaphthylene	44	µg/kg	110-280000	µg/kg	--		0.008-11	mg/kg
Anthracene	85.3	µg/kg	110-280000	µg/kg	--		0.01-11	mg/kg
Benzo(a)anthracene	261	µg/kg	180-190000	µg/kg	0.01	mg/kg	0.016-11	mg/kg
Benzo(a)pyrene	430	µg/kg	180-190000	µg/kg	0.01	mg/kg	0.016-6.9	mg/kg
Benzo(b)fluoranthene	--		180-190000	µg/kg	--		0.016-11	mg/kg
Benzo(g,h,i)perylene	--		180-190000	µg/kg	--		0.016-11	mg/kg
Benzo(k)fluoranthene	--		180-280000	µg/kg	--		0.016-11	mg/kg
Dibenzo(a,h)anthracene	63.4	µg/kg	180-280000	µg/kg	0.01	mg/kg	0.016-11	mg/kg
Fluoranthene	600	µg/kg	110-190000	µg/kg	--		0.016-11	mg/kg
Fluorene	19	µg/kg	110-280000	µg/kg	--		0.008-6.9	mg/kg
Indeno(1,2,3-cd)pyrene	--		180-280000	µg/kg	--		0.016-11	mg/kg
Naphthalene	160	µg/kg	110-280000	µg/kg	--		0.009-6.9	mg/kg
Phenanthrene	240	µg/kg	110-27000	µg/kg	0.01	mg/kg	0.016-6.9	mg/kg
Pyrene	665	µg/kg	110-190000	µg/kg	--		0.016-6.9	mg/kg
PCB Aroclors								
Aroclor-1016	7	µg/kg	23-3600	µg/kg	--		12-390	µg/kg
Aroclor-1221	120	µg/kg	46-7200	µg/kg	--		12-390	µg/kg

Table B1-11. Sediment target and achieved detection limits.

Method Group/Analyte	Target DL Phase I ^a	Units	DL Range Phase I ^b	Units	Target DL Phase II ^c	Units	DL Range Phase II ^b	Units
<i>PCB Aroclors (cont.)</i>								
Aroclor-1232	600	µg/kg	23-3600	µg/kg	--		12-390	µg/kg
Aroclor-1242	170	µg/kg	23-3600	µg/kg	--		12-390	µg/kg
Aroclor-1248	30	µg/kg	23-3600	µg/kg	--		12-390	µg/kg
Aroclor-1254	60	µg/kg	23-3600	µg/kg	--		12-390	µg/kg
Aroclor-1260	5	µg/kg	23-3600	µg/kg	--		12-390	µg/kg
<i>PCB Congeners</i>								
PCB-105	--		--		--		46.4-46.4	ng/kg
PCB-108	--		--		--		46.4-46.4	ng/kg
PCB-114	--		--		--		2.24-48.4	ng/kg
PCB-118	--		--		--		46.4-46.4	ng/kg
PCB-126	--		--		--		4.97-49.5	ng/kg
PCB-127	--		--		--		4.56-50	ng/kg
PCB-15	--		--		--		4.99-4.99	ng/kg
PCB-156	--		--		--		46.4-46.4	ng/kg
PCB-157	--		--		--		4.97-48.4	ng/kg
PCB-162	--		--		--		46.4-46.4	ng/kg
PCB-167	--		--		--		46.4-46.4	ng/kg
PCB-169	--		--		--		4.77-49.8	ng/kg
PCB-189	--		--		--		4.97-46.4	ng/kg
PCB-37	--		--		--		13.8-73.9	ng/kg
PCB-58	--		--		--		4.98-49.5	ng/kg
PCB-60	--		--		--		10.3-56.4	ng/kg
PCB-61/70	--		--		--		25.3-125	ng/kg
PCB-66	--		--		--		21.9-75.1	ng/kg
PCB-77	--		--		--		6.07-46.4	ng/kg
PCB-79	--		--		--		4.97-48.4	ng/kg
PCB-80	--		--		--		1.49-49.8	ng/kg

Table B1-11. Sediment target and achieved detection limits.

Method Group/Analyte	Target DL Phase I ^a	Units	DL Range Phase I ^b	Units	Target DL Phase II ^c	Units	DL Range Phase II ^b	Units
<i>PCB Congeners (cont.)</i>								
PCB-81	--		--		--		4.97-48.4	ng/kg
Total PCBs	22.7	µg/kg	--		0.010	mg/kg	--	
<i>Pesticides</i>								
1,1,1-Trichloro-2,2-bis (p-methoxyphenyl)-ethane	19	µg/kg	0.79-1800	µg/kg	--		0.001-0.88	mg/kg
4,4'-DDD	2	µg/kg	2.3-360	µg/kg	0.0005	mg/kg	0.001-0.94	mg/kg
4,4'-DDE	2.2	µg/kg	2.3-360	µg/kg	0.0005	mg/kg	0.001-0.94	mg/kg
4,4'-DDT	1	µg/kg	2.3-360	µg/kg	0.0005	mg/kg	0.001-0.26	mg/kg
Aldrin	2	µg/kg	0.74-180	µg/kg	0.0005	mg/kg	0.00051-0.26	mg/kg
alpha-BHC	6	µg/kg	1.2-180	µg/kg	--		0.00051-0.26	mg/kg
alpha-chlordane	--		0.23-180	µg/kg	--		0.00051-0.94	mg/kg
beta-BHC	5	µg/kg	1.2-390	µg/kg	0.0005	mg/kg	0.00051-0.26	mg/kg
Camphechlor	--		120-18000	µg/kg	--		0.015-2	mg/kg
delta-BHC	--		1.2-180	µg/kg	--		0.00051-0.26	mg/kg
Dieldrin	0.02	µg/kg	2.3-360	µg/kg	0.0005	mg/kg	0.001-0.26	mg/kg
Endosulfan I	5.5	µg/kg	1.2-180	µg/kg	--		0.00051-0.94	mg/kg
Endosulfan II	--		2.3-360	µg/kg	--		0.001-0.26	mg/kg
Endosulfan sulfate	--		2.7-360	µg/kg	--		0.001-0.26	mg/kg
Endrin	2.67	µg/kg	2.3-360	µg/kg	--		0.0025-0.94	mg/kg
Endrin aldehyde	--		2.3-360	µg/kg	--		0.001-0.26	mg/kg
Endrin ketone	--		2.3-360	µg/kg	--		0.001-0.26	mg/kg
gamma-BHC (Lindane)	0.32	µg/kg	1.2-180	µg/kg	--		0.00051-0.26	mg/kg
gamma-chlordane	--		1.2-180	µg/kg	--		0.00051-0.26	mg/kg
Heptachlor	68	µg/kg	1.2-180	µg/kg	--		0.00051-0.26	mg/kg
Heptachlor epoxide	0.6	µg/kg	1.2-180	µg/kg	--		0.00051-0.94	mg/kg
Technical chlordane	--		--		--		0.01-0.269	mg/kg

Table B1-11. Sediment target and achieved detection limits.

Method Group/Analyte	Target DL Phase I ^a	Units	DL Range Phase I ^b	Units	Target DL Phase II ^c	Units	DL Range Phase II ^b	Units
<i>Semivolatiles</i>								
1,2,4-Trichlorobenzene	--		10-27000	µg/kg	--		0.515-14.15	mg/kg
1,2-Dichlorobenzene	--		10-27000	µg/kg	--		0.515-14.15	mg/kg
1,4-Dichlorobenzene	--		10-27000	µg/kg	--		0.515-14.15	mg/kg
2,2'-oxybis(1-Chloropropane)	--		180-280000	µg/kg	--		0.051-11	mg/kg
2,4,5-Trichlorophenol	--		275-690000	µg/kg	--		0.051-14.15	mg/kg
2,4,6-Trichlorophenol	--		180-280000	µg/kg	--		0.051-14.15	mg/kg
2,4-Dichlorophenol	--		180-280000	µg/kg	--		0.051-14.15	mg/kg
2,4-Dimethylphenol	--		180-280000	µg/kg	--		0.051-14.15	mg/kg
2,4-Dinitrophenol	--		460-690000	µg/kg	--		0.13-56.6	mg/kg
2,4-Dinitrotoluene	--		180-280000	µg/kg	--		0.051-14.15	mg/kg
2,6-Dinitrotoluene	--		180-280000	µg/kg	--		0.051-14.15	mg/kg
2-Chloronaphthalene	--		180-280000	µg/kg	--		0.051-14.15	mg/kg
2-Chlorophenol	--		180-280000	µg/kg	--		0.051-14.15	mg/kg
2-Methylphenol	--		180-280000	µg/kg	--		0.051-14.15	mg/kg
2-Nitroaniline	--		440-690000	µg/kg	--		0.054-28	mg/kg
2-Nitrophenol	--		180-280000	µg/kg	--		0.051-14.15	mg/kg
3,3'-Dichlorobenzidine	--		180-280000	µg/kg	--		0.053-14.15	mg/kg
3,5,5-Trimethyl-2-cyclohexene-1-one	--		180-280000	µg/kg	--		0.051-14.15	mg/kg
3-Methylphenol & 4-Methylphenol	--		290-2300	µg/kg	--		0.515-14.15	mg/kg
3-Nitroaniline	--		440-690000	µg/kg	--		0.13-28	mg/kg
4,6-Dinitro-2-methylphenol	--		460-690000	µg/kg	--		0.13-56.6	mg/kg
4-Bromophenyl phenyl ether	--		180-280000	µg/kg	--		0.051-14.15	mg/kg
4-Chloro-3-methylphenol	--		180-280000	µg/kg	--		0.051-14.15	mg/kg
4-Chlorophenyl phenyl ether	--		180-280000	µg/kg	--		0.051-14.15	mg/kg
4-Methylphenol	--		180-280000	µg/kg	--		0.051-11	mg/kg
4-Nitrophenol	--		460-690000	µg/kg	--		0.13-36.79	mg/kg
Acetophenone	--		180-280000	µg/kg	--		0.051-14.15	mg/kg
Atrazine	--		180-280000	µg/kg	--		0.051-14.15	mg/kg

Table B1-11. Sediment target and achieved detection limits.

Method Group/Analyte	Target DL Phase I ^a	Units	DL Range Phase I ^b	Units	Target DL Phase II ^c	Units	DL Range Phase II ^b	Units
<i>Semivolatiles (cont.)</i>								
Benzaldehyde	--		330-280000	µg/kg	--		0.051-14.15	mg/kg
Benzoic acid	--		550-14200	µg/kg	--		1.03-28.3	mg/kg
Benzyl alcohol	--		275-5680	µg/kg	--		0.515-14.15	mg/kg
Benzyl butyl phthalate	--		180-280000	µg/kg	--		0.051-11	mg/kg
bis(2-Chloroethoxy)methane	--		180-280000	µg/kg	--		0.051-14.15	mg/kg
bis(2-Chloroethyl)ether	--		180-280000	µg/kg	--		0.051-14.15	mg/kg
bis(2-chloroisopropyl)ether	--		--		--		0.515-14.15	mg/kg
bis(2-Ethylhexyl)phthalate	182	µg/kg	120-280000	µg/kg	0.01	mg/kg	0.051-11	mg/kg
Caprolactam			180-280000	µg/kg	--		0.051-14.15	mg/kg
Carbazole	--		180-280000	µg/kg	--		0.009-14.15	mg/kg
Di-n-butylphthalate	--		63-280000	µg/kg	--		0.051-11	mg/kg
Di-n-octylphthalate	--		180-280000	µg/kg	--		0.051-11	mg/kg
Dibenzofuran	--		180-280000	µg/kg	--		0.008-11	mg/kg
Diethyl phthalate	--		180-280000	µg/kg	--		0.051-11	mg/kg
Dimethyl phthalate	--		180-280000	µg/kg	--		0.051-11	mg/kg
Hexachloro-1,3-butadiene	--		110-280000	µg/kg	0.01	mg/kg	0.021-11	mg/kg
Hexachlorobenzene	--		110-280000	µg/kg	0.01	mg/kg	0.021-11	mg/kg
Hexachlorocyclopentadiene	--		180-280000	µg/kg	--		0.054-14.15	mg/kg
Hexachloroethane	--		180-280000	µg/kg	--		0.051-14.15	mg/kg
M-Dichlorobenzene	--		10-27000	µg/kg	--		0.515-14.15	mg/kg
N-Nitroso-di-n-propylamine	--		180-280000	µg/kg	--		0.051-14.15	mg/kg
N-Nitrosodiphenylamine	--		180-280000	µg/kg	--		0.051-14.15	mg/kg
Nitrobenzene	--		180-280000	µg/kg	--		0.051-14.15	mg/kg
P-Chloroaniline	--		180-280000	µg/kg	--		0.051-14.15	mg/kg
P-Nitroaniline	--		440-690000	µg/kg	--		0.13-28	mg/kg
Pentachlorophenol	--		275-690000	µg/kg	--		0.13-28	mg/kg
Phenol	--		180-280000	µg/kg	0.01	mg/kg	0.051-11	mg/kg

Table B1-11. Sediment target and achieved detection limits.

Method Group/Analyte	Target DL Phase I ^a	Units	DL Range Phase I ^b	Units	Target DL Phase II ^c	Units	DL Range Phase II ^b	Units
TPH								
Diesel range organics	--		12000-88000	µg/kg	--		--	
Volatiles								
1,1,1-Trichloroethane	--		10-210	µg/kg	--		--	
1,1,2,2-Tetrachloroethane	--		10-27000	µg/kg	--		--	
1,1,2-Trichloroethane	--		10-210	µg/kg	--		--	
1,1-Dichloroethane	--		10-210	µg/kg	--		--	
1,1-Dichloroethylene	--		10-210	µg/kg	--		--	
1,2-Dibromo-3-chloropropane (DBCP)	--		10-27000	µg/kg	--		--	
1,2-Dibromoethane	--		10-27000	µg/kg	--		--	
1,2-Dichloroethane	--		10-210	µg/kg	--		--	
1,2-Dichloropropane	--		10-210	µg/kg	--		--	
2-Butanone	--		10-210	µg/kg	--		--	
4-Methyl-2-pentanone	--		10-27000	µg/kg	--		--	
Acetone	--		10-730	µg/kg	--		--	
Benzene	--		10-150	µg/kg	--		--	
Bromodichloromethane	--		10-210	µg/kg	--		--	
Bromomethane	--		10-210	µg/kg	--		--	
Carbon disulfide	--		10-210	µg/kg	--		--	
Carbon tetrachloride	--		10-210	µg/kg	--		--	
CFC-11	--		10-210	µg/kg	--		--	
CFC-12	--		10-210	µg/kg	--		--	
Chlorinated Fluorocarbon (Freon 113)	--		10-210	µg/kg	--		--	
Chlorobenzene	--		10-27000	µg/kg	--		--	
Chlorodibromomethane	--		10-210	µg/kg	--		--	
Chloroethane	--		10-210	µg/kg	--		--	
Chloroform	--		3-210	µg/kg	--		--	
Chloromethane	--		10-210	µg/kg	--		--	

Table B1-11. Sediment target and achieved detection limits.

Method Group/Analyte	Target DL Phase I ^a	Units	DL Range Phase I ^b	Units	Target DL Phase II ^c	Units	DL Range Phase II ^b	Units
Volatiles (cont.)								
cis-1,2-Dichloroethene	--		10-210	µg/kg	--		--	
cis-1,3-Dichloropropene	--		10-210	µg/kg	--		--	
Cyclohexane	--		10-150	µg/kg	--		--	
Dichloromethane	--		3-150	µg/kg	--		--	
Ethylbenzene	--		10-150	µg/kg	--		--	
Isopropylbenzene	--		10-27000	µg/kg	--		--	
Methyl acetate	--		5-210	µg/kg	--		--	
Methyl N-butyl ketone	--		10-27000	µg/kg	--		--	
Methyl tert-butyl ether	--		10-27000	µg/kg	--		--	
Methylbenzene	--		10-150	µg/kg	--		--	
Methylcyclohexane	--		10-210	µg/kg	--		--	
Styrene (monomer)	--		10-210	µg/kg	--		--	
Tetrachloroethene	--		10-27000	µg/kg	--		--	
trans-1,2-dichloroethene	--		10-210	µg/kg	--		--	
trans-1,3-dichloropropene	--		10-210	µg/kg	--		--	
Tribromomethane	--		10-210	µg/kg	--		--	
Trichloroethylene	--		10-210	µg/kg	--		--	
Vinyl chloride	--		10-210	µg/kg	--		--	
Xylenes (total)	--		4-27000	µg/kg	--		--	

^a Derived from the Calcasieu Estuary Phase I Sampling and Analysis Plan (Table 5-3).

^b Derived from the Calcasieu Estuary Database.

^c Derived from the Calcasieu Estuary Phase II Sampling and Analysis Plan (Table 5-2).

PCBs = polychlorinated biphenyls; PAHs = polycyclic aromatic hydrocarbons; TPH = total petroleum hydrocarbons; DL = detection limit.

Table B1-12. Surface-water target and achieved detection limits.

Method Group/Analyte	Target DL Phase I ^a	Units	DL Range Phase I ^b	Units
Conventional Variables/Nutrients				
Biochemical oxygen demand (BOD)	--		2-4	mg/L
Bromide	--		0.2-0.2	mg/L
Carbonate alkalinity	--		5-5	mg/L
Chemical oxygen demand (COD)	--		20-42.5	mg/L
Fluoride	--		5-20	mg/L
Hardness, as CaCO ₃	--		5-5	mg/L
Hydroxide alkalinity	--		5-5	mg/L
Nitrate-Nitrite	--		0.1-0.1	mg/L
Phosphate as P, ortho	--		0.5-10	mg/L
Sulfate	--		5-5	mg/L
Total kjeldahl nitrogen	--		0.5-1.4	mg/L
Total suspended solids	--		4-4	mg/L
Dioxin/Furans				
1,2,3,4,6,7,8-HxCDD	--		2.7-8.3	pg/L
1,2,3,4,6,7,8-HxCDF	--		1.8-6.1	pg/L
1,2,3,4,7,8,9-HxCDF	--		2.1-15	pg/L
1,2,3,4,7,8-HxCDD	--		0.6-6.2	pg/L
1,2,3,4,7,8-HxCDF	--		2.5-4.8	pg/L
1,2,3,6,7,8-HxCDD	--		0.63-5.8	pg/L
1,2,3,6,7,8-HxCDF	--		2-16	pg/L
1,2,3,7,8,9-HxCDD	--		0.59-5.9	pg/L
1,2,3,7,8,9-HxCDF	--		1.8-4.8	pg/L
1,2,3,7,8-PeCDD	--		1.2-4.8	pg/L
1,2,3,7,8-PeCDF	--		1.8-15	pg/L
2,3,4,6,7,8-HxCDF	--		1.6-3	pg/L
2,3,4,7,8-PeCDF	--		1.7-7.1	pg/L
2,3,7,8-TCDD	--		0.71-4.3	pg/L
2,3,7,8-TCDF	--		1.2-2.8	pg/L
OCDD	--		3.6-18	pg/L
OCDF	--		3-20	pg/L
Total HpCDD	--		4.2-8.3	pg/L
Total HpCDF	--		2.3-6.1	pg/L
Total HxCDD	--		3.2-12	pg/L
Total HxCDF	--		3.1-7	pg/L
Total PeCDD	--		1.8-4.8	pg/L
Total PeCDF	--		1.8-9.4	pg/L
Total TCDD	--		1.4-4.3	pg/L
Total TCDF	--		1.2-2.1	pg/L
Herbicides				
2,2-Dichloropropionic acid	--		2-4	µg/L
2,4,5-T	--		1-2	µg/L

Table B1-12. Surface-water target and achieved detection limits.

Method Group/Analyte	Target DL Phase I ^a	Units	DL Range Phase I ^b	Units
Herbicides (cont.)				
2,4,5-TP (Silvex)	--		1-2	µg/L
2,4-D	--		4-8	µg/L
2,4-DB	--		4-8	µg/L
Dicamba	--		2-4	µg/L
Dichlorprop	--		4-8	µg/L
Dinitrobutyl phenol	--		0.6-1.2	µg/L
MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	--		400-800	µg/L
Mecoprop	--		400-800	µg/L
Metals				
Aluminum (Fume or Dust)	87	µg/L	0.05-1000	µg/L
Antimony	--		2-300	µg/L
Arsenic	36	µg/L	0.002-10	µg/L
Barium	--		0.1-200	µg/L
Beryllium	--		0.1-25	µg/L
Cadmium	9.3	µg/L	0.3-25	µg/L
Calcium	--		35.9-310	µg/L
Chromium	103	µg/L	0.7-50	µg/L
Cobalt	--		1-250	µg/L
Copper	3.1	µg/L	0.6-31.1	µg/L
Cyanide	1	µg/L	3.5-10	µg/L
Iron	1000	µg/L	6.6-3470	µg/L
Lead	8.1	µg/L	0.17-9	µg/L
Magnesium	--		11.4-5000	µg/L
Manganese	--		0.2-130	µg/L
Mercury	0.025	µg/L	0.052-0.2	µg/L
Nickel	8.2	µg/L	0.002-200	µg/L
Potassium	--		36-5000	µg/L
Selenium	71	µg/L	0.002-22	µg/L
Silver	1.9	µg/L	0.001-6	µg/L
Sodium	--		115-5000	µg/L
Thallium	--		0.13-10	µg/L
Vanadium (Fume or Dust)	--		1-250	µg/L
Zinc	81	µg/L	1.6-100	µg/L
PAHs				
1,1'-Biphenyl			9-13	µg/L
1,2-Benzphenanthracene	--		9-13	µg/L
2-Methylnaphthalene	--		9-13	µg/L
Acenaphthene	--		9-13	µg/L
Acenaphthylene	--		9-13	µg/L
Anthracene	--		9-13	µg/L
Benzo(a)anthracene	--		9-13	µg/L

Table B1-12. Surface-water target and achieved detection limits.

Method Group/Analyte	Target DL Phase I ^a	Units	DL Range Phase I ^b	Units
PAHs (cont.)				
Benzo(a)pyrene	--		9-13	µg/L
Benzo(b)fluoranthene	--		9-13	µg/L
Benzo(g,h,i)perylene	--		9-13	µg/L
Benzo(k)fluoranthene	--		9-13	µg/L
Dibenzo(a,h)anthracene	--		9-13	µg/L
Fluoranthene	--		9-13	µg/L
Fluorene	--		9-13	µg/L
Indeno(1,2,3-cd)pyrene	--		9-13	µg/L
Naphthalene	--		9-13	µg/L
Phenanthrene	--		9-13	µg/L
Pyrene	--		9-13	µg/L
PCB Aroclors				
Aroclor-1016	--		0.91-1	µg/L
Aroclor-1221	--		1.8-2.1	µg/L
Aroclor-1232	--		0.91-1	µg/L
Aroclor-1242	--		0.91-1	µg/L
Aroclor-1248	--		0.91-1	µg/L
Aroclor-1254	--		0.91-1	µg/L
Aroclor-1260	--		0.91-1	µg/L
Pesticides				
1,1,1-Trichloro-2,2-bis (p-methoxyphenyl)-ethane	0.03	µg/L	0.015-0.53	µg/L
4,4'-DDD	0.25	µg/L	0.091-0.1	µg/L
4,4'-DDE	0.14	µg/L	0.091-0.1	µg/L
4,4'-DDT	0.001	µg/L	0.091-0.1	µg/L
Aldrin	1.3	µg/L	0.0079-0.053	µg/L
alpha-BHC	--		0.045-0.053	µg/L
alpha-chlordane	--		0.045-0.053	µg/L
beta-BHC	--		0.031-0.11	µg/L
Camphechlor	0.0002	µg/L	4.5-5.3	µg/L
delta-BHC	--		0.0071-0.053	µg/L
Dieldrin	0.0019	µg/L	0.091-0.1	µg/L
Endosulfan I	0.0087	µg/L	0.045-0.053	µg/L
Endosulfan II	0.0087	µg/L	0.091-0.1	µg/L
Endosulfan sulfate	--		0.091-0.1	µg/L
Endrin	0.0023	µg/L	0.091-0.1	µg/L
Endrin aldehyde	--		0.091-0.1	µg/L
Endrin ketone	--		0.091-0.1	µg/L
gamma-BHC (Lindane)	0.16	µg/L	0.045-0.053	µg/L
gamma-chlordane	--		0.045-0.053	µg/L
Heptachlor	0.0036	µg/L	0.045-0.053	µg/L
Heptachlor epoxide	0.0036	µg/L	0.045-0.053	µg/L

Table B1-12. Surface-water target and achieved detection limits.

Method Group/Analyte	Target DL Phase I ^a	Units	DL Range Phase I ^b	Units
Semivolatiles				
1,2,4-Trichlorobenzene	--		10-10	µg/L
1,2-Dichlorobenzene	--		10-10	µg/L
1,4-Dichlorobenzene	--		10-10	µg/L
2,2'-oxybis(1-Chloropropane)	--		9-13	µg/L
2,4,5-Trichlorophenol	--		23-31	µg/L
2,4,6-Trichlorophenol	--		9-13	µg/L
2,4-Dichlorophenol	101	µg/L	9-13	µg/L
2,4-Dimethylphenol	--		9-13	µg/L
2,4-Dinitrophenol	--		23-31	µg/L
2,4-Dinitrotoluene	--		9-13	µg/L
2,6-Dinitrotoluene	--		9-13	µg/L
2-Chloronaphthalene	--		9-13	µg/L
2-Chlorophenol	129	µg/L	9-13	µg/L
2-Methylphenol	--		9-13	µg/L
2-Nitroaniline	--		23-31	µg/L
2-Nitrophenol	--		9-13	µg/L
3,3'-Dichlorobenzidine	--		9-13	µg/L
3,5,5-Trimethyl-2-cyclohexene-1-one	--		9-13	µg/L
3-Nitroaniline	--		23-31	µg/L
4,6-Dinitro-2-methylphenol	--		23-31	µg/L
4-Bromophenyl phenyl ether	--		9-13	µg/L
4-Chloro-3-methylphenol	--		9-13	µg/L
4-Chlorophenyl phenyl ether	--		9-13	µg/L
4-Methylphenol	--		9-13	µg/L
4-Nitrophenol	--		23-31	µg/L
Acetophenone	--		9-13	µg/L
Atrazine	--		9-13	µg/L
Benzaldehyde	--		9-13	µg/L
Benzyl butyl phthalate	--		9-13	µg/L
bis(2-Chloroethoxy)methane	--		9-13	µg/L
bis(2-Chloroethyl)ether	--		9-13	µg/L
bis(2-Ethylhexyl)phthalate	--		7-13	µg/L
Caprolactam	--		9-13	µg/L
Carbazole	--		9-13	µg/L
Di-n-butylphthalate	--		9-13	µg/L
Di-n-octylphthalate	--		9-13	µg/L
Dibenzofuran	--		9-13	µg/L
Diethyl phthalate	--		9-13	µg/L
Dimethyl phthalate	--		9-13	µg/L
Hexachloro-1,3-butadiene	0.32	µg/L	9-13	µg/L
Hexachlorobenzene	--		9-13	µg/L
Hexachlorocyclopentadiene	0.001	µg/L	9-13	µg/L
Hexachloroethane	--		9-13	µg/L
M-Dichlorobenzene	--		10-10	µg/L

Table B1-12. Surface-water target and achieved detection limits.

Method Group/Analyte	Target DL Phase I ^a	Units	DL Range Phase I ^b	Units
Semivolatiles (cont.)				
N-Nitroso-di-n-propylamine	--		9-13	µg/L
N-Nitrosodiphenylamine	--		9-13	µg/L
Nitrobenzene	--		9-13	µg/L
P-Chloroaniline	--		9-13	µg/L
P-Nitroaniline	--		23-31	µg/L
Pentachlorophenol	7.9	µg/L	23-31	µg/L
Phenol	290	µg/L	9-13	µg/L
TPHs				
C5-C8 Aliphatics	--		18000-18000	µg/L
C9-C10 Aromatics	--		10000-10000	µg/L
C9-C12 Aliphatics	--		5200-5200	µg/L
Diesel Range Organics	--		100-360	µg/L
Unadjusted C5-C8 Aliphatics	--		18000-18000	µg/L
Unadjusted C9-C12 Aliphatics	--		5200-5200	µg/L
Volatiles				
1,1,1-Trichloroethane	1560	µg/L	10-10	µg/L
1,1,2,2-Tetrachloroethane	451	µg/L	10-10	µg/L
1,1,2-Trichloroethane	900	µg/L	10-10	µg/L
1,1-Dichloroethane	--		10-10	µg/L
1,1-Dichloroethylene	11200	µg/L	10-10	µg/L
1,2-Dibromo-3-chloropropane (DBCP)	--		10-10	µg/L
1,2-Dibromoethane	--		10-10	µg/L
1,2-Dichloroethane	5650	µg/L	10-10	µg/L
1,2-Dichloropropane	--		10-10	µg/L
2-Butanone	--		10-12	µg/L
4-Methyl-2-pentanone	--		10-10	µg/L
Acetone	--		10-26	µg/L
Benzene	1350	µg/L	10-10	µg/L
Bromodichloromethane	--		10-10	µg/L
Bromomethane	--		10-10	µg/L
Carbon disulfide	--		10-10	µg/L
Carbon tetrachloride	7500	µg/L	10-10	µg/L
CFC-11	--		10-10	µg/L
CFC-12	--		10-10	µg/L
Chlorinated fluorocarbon (Freon 113)	--		10-10	µg/L
Chlorobenzene	--		10-10	µg/L
Chlorodibromomethane	--		10-10	µg/L
Chloroethane	--		10-10	µg/L
Chloroform	4075	µg/L	1-10	µg/L
Chloromethane	13500	µg/L	10-10	µg/L
cis-1,2-Dichloroethene	--		10-10	µg/L

Table B1-12. Surface-water target and achieved detection limits.

Method Group/Analyte	Target DL Phase I ^a	Units	DL Range Phase I ^b	Units
Volatiles (cont.)				
cis-1,3-Dichloropropene	39.5	µg/L	10-10	µg/L
Cyclohexane	--		10-10	µg/L
Dichloromethane	12800	µg/L	1-19	µg/L
Ethylbenzene	4380	µg/L	10-10	µg/L
Isopropylbenzene	--		10-10	µg/L
Methyl Acetate	--		10-10	µg/L
Methyl N-butyl ketone	--		10-10	µg/L
Methyl tert-butyl ether	--		10-10	µg/L
Methylbenzene	475	µg/L	10-10	µg/L
Methylcyclohexane	--		10-10	µg/L
Styrene (monomer)	--		10-10	µg/L
Tetrachloroethene	510	µg/L	10-10	µg/L
trans-1,2-Dichloroethene	--		10-10	µg/L
trans-1,3-Dichloropropene	--		10-10	µg/L
Tribromomethane	895	µg/L	10-10	µg/L
Trichloroethylene	100	µg/L	10-10	µg/L
Vinyl chloride	--		10-10	µg/L
Xylenes (total)	--		10-10	µg/L

PCBs = polychlorinated biphenyls; PAHs = polycyclic aromatic hydrocarbons; TPH = total petroleum hydrocarbons;
DL = detection limit.

Table B1-13. Tissue target and achieved detection limits.

Method Group/Analyte	DL Range Phase I ^b	Units	Target DL Phase II ^a	Units	DL Range Phase II ^b	Units
<i>Percent Lipids</i>						
Percent Lipids	--		--		0.1-0.1	%
<i>Dioxin/Furans</i>						
1,2,3,4,6,7,8-HpCDD	0.63-1.8	pg/g	--		0.15-4.38	pg/g
1,2,3,4,6,7,8-HpCDF	0.23-1.9	pg/g	--		0.0758-1.23	pg/g
1,2,3,4,7,8,9-HpCDF	0.3-1.6	pg/g	--		0.0298-3.37	pg/g
1,2,3,4,7,8-HxCDD	0.9-1.8	pg/g	--		0.0447-2.04	pg/g
1,2,3,4,7,8-HxCDF	0.43-0.91	pg/g	--		0.0392-0.885	pg/g
1,2,3,6,7,8-HxCDD	0.76-1.7	pg/g	--		0.074-2.37	pg/g
1,2,3,6,7,8-HxCDF	0.38-2.3	pg/g	--		0.0405-0.946	pg/g
1,2,3,7,8,9-HxCDD	0.77-1.5	pg/g	--		0.0462-2.02	pg/g
1,2,3,7,8,9-HxCDF	0.5-1.2	pg/g	--		0.0255-4.72	pg/g
1,2,3,7,8-PeCDD	0.54-0.89	pg/g	--		0.0507-2.4	pg/g
1,2,3,7,8-PeCDF	0.28-1.9	pg/g	--		0.0623-1.11	pg/g
2,3,4,6,7,8-HxCDF	0.44-0.71	pg/g	--		0.0166-1.4	pg/g
2,3,4,7,8-PeCDF	0.28-1.8	pg/g	--		0.0474-1.45	pg/g
2,3,7,8-TCDD	0.25-0.44	pg/g	0.15	pg/g	0.026-0.882	pg/g
2,3,7,8-TCDF	0.31-1.7	pg/g	0.40	pg/g	0.0344-2.35	pg/g
OCDD	2.4-3.8	pg/g	--		0.508-12.6	pg/g
OCDF	0.57-1.3	pg/g	--		0.178-13.9	pg/g
Total HpCDD	0.68-1.8	pg/g	--		0.15-4.38	pg/g
Total HpCDF	0.3-1.9	pg/g	--		0.0811-1.81	pg/g
Total HxCDD	0.9-1.5	pg/g	--		0.0815-2.13	pg/g
Total HxCDF	0.5-1.6	pg/g	--		0.102-3.51	pg/g
Total PeCDD	0.54-2.8	pg/g	--		0.0507-2.4	pg/g
Total PeCDF	0.28-0.78	pg/g	--		0.13-1.37	pg/g
Total TCDD	0.25-0.5	pg/g	--		0.0228-0.882	pg/g
Total TCDF	0.44-0.48	pg/g	--		0.103-0.134	pg/g

Table B1-13. Tissue target and achieved detection limits.

Method Group/Analyte	DL Range Phase I ^b	Units	Target DL Phase II ^a	Units	DL Range Phase II ^b	Units
Metals						
Aluminum (Fume or Dust)	4.4-28.6	mg/kg	--		21-47	mg/kg
Antimony	0.38-1	mg/kg	0.12	mg/kg	0.02-1	mg/kg
Arsenic	0.42-3.4	mg/kg	0.12	mg/kg	0.01-0.98	mg/kg
Barium	0.2-2.9	mg/kg	--		--	
Beryllium	0.5-0.5	mg/kg	--		0.054-0.1	mg/kg
Cadmium	0.5-0.5	mg/kg	--		0.003-0.3	mg/kg
Calcium	--		--		250-330	mg/kg
Chromium	1-1	mg/kg	0.41	mg/kg	0.01-0.97	mg/kg
Cobalt	1-1	mg/kg	--		--	
Copper	0.33-1.3	mg/kg	19.40	mg/kg	0.01-4.2	mg/kg
Iron	3.1-26.6	mg/kg	--		0.11-3.6	mg/kg
Lead	0.8-0.8	mg/kg	0.47	mg/kg	0.02-0.49	mg/kg
Magnesium	251-280	mg/kg	--		110-160	mg/kg
Manganese	0.23-1.9	mg/kg	--		--	
Mercury	0.009-0.21	mg/kg	0.18	mg/kg	0.002-0.003	mg/kg
Nickel	4-4	mg/kg	--		0.03-0.33	mg/kg
Potassium	--		--		150-1500	mg/kg
Selenium	0.7-2	mg/kg	--		0.03-1	mg/kg
Silver	1-1	mg/kg	--		0.01-0.55	mg/kg
Sodium	351-1730	mg/kg	--		300-2200	mg/kg
Thallium	1.2-1.2	mg/kg	--		0.84-1	mg/kg
Vanadium (Fume or Dust)	1-1	mg/kg	--		--	
Zinc	4.7-7.7	mg/kg	6.00	mg/kg	0.01-20	mg/kg
PAHs						
1,1'-Biphenyl			--		40-1000	µg/kg
1,2-Benzphenanthracene	1000-2000	µg/kg	--		40-1000	µg/kg
1-Methylnaphthalene			--		1.7-1.7	µg/kg
2-Methylnaphthalene	1000-2000	µg/kg	--		40-1000	µg/kg
Acenaphthene	1000-2000	µg/kg	--		1.7-1000	µg/kg

Table B1-13. Tissue target and achieved detection limits.

Method Group/Analyte	DL Range Phase I ^b	Units	Target DL Phase II ^a	Units	DL Range Phase II ^b	Units
PAHs (cont.)						
Acenaphthylene	1000-2000	µg/kg	--		1.7-1000	µg/kg
Anthracene	1000-2000	µg/kg	--		1.7-1000	µg/kg
Benzo(a)anthracene	1000-2000	µg/kg	--		40-1000	µg/kg
Benzo(a)pyrene	1000-2000	µg/kg	990	µg/kg	40-4000	µg/kg
Benzo(b)fluoranthene	1000-2000	µg/kg	--		40-4000	µg/kg
Benzo(g,h,i)perylene	1000-2000	µg/kg	--		40-4000	µg/kg
Benzo(k)fluoranthene	1000-2000	µg/kg	--		40-4000	µg/kg
Dibenzo(a,h)anthracene	1000-2000	µg/kg	--		1.7-4000	µg/kg
Fluoranthene	1000-2000	µg/kg	--		40-1000	µg/kg
Fluorene	1000-2000	µg/kg	--		1.7-1000	µg/kg
Indeno(1,2,3-cd)pyrene	1000-2000	µg/kg	--		40-4000	µg/kg
Naphthalene	1000-2000	µg/kg	--		40-1000	µg/kg
Phenanthrene	1000-2000	µg/kg	--		40-1000	µg/kg
Pyrene	1000-2000	µg/kg	--		40-1000	µg/kg
PCB Aroclors						
Aroclor-1016	100-100	µg/kg	--		10-830	µg/kg
Aroclor-1221	100-100	µg/kg	--		10-830	µg/kg
Aroclor-1232	100-100	µg/kg	--		10-830	µg/kg
Aroclor-1242	100-100	µg/kg	--		10-830	µg/kg
Aroclor-1248	100-100	µg/kg	--		10-830	µg/kg
Aroclor-1254	100-100	µg/kg	--		10-670	µg/kg
Aroclor-1260	100-100	µg/kg	--		7.8-830	µg/kg
PCB Congeners						
PCB-10	--		--		0.341-1.44	pg/g
PCB-105	--		--		36.4-89.9	pg/g
PCB-106	--		--		1.26-2.5	pg/g
PCB-112	--		--		0.28-0.604	pg/g
PCB-114	--		--		18.9-89.9	pg/g

Table B1-13. Tissue target and achieved detection limits.

Method Group/Analyte	DL Range Phase I ^b	Units	Target DL Phase II ^a	Units	DL Range Phase II ^b	Units
<i>PCB Congeners (cont.)</i>						
PCB-126	--		--		2.01-89.9	pg/g
PCB-127	--		--		1.97-238	pg/g
PCB-14	--		--		0.325-0.336	pg/g
PCB-142	--		--		1.2-2.66	pg/g
PCB-15	--		--		1.99-238	pg/g
PCB-156	--		--		89.9-89.9	pg/g
PCB-157	--		--		18.9-89.9	pg/g
PCB-161	--		--		1.2-1.59	pg/g
PCB-162	--		--		1.97-1.97	pg/g
PCB-167	--		--		89.9-89.9	pg/g
PCB-169	--		--		1.99-238	pg/g
PCB-17	--		--		12-12.6	pg/g
PCB-186	--		--		0.27-0.27	pg/g
PCB-189	--		--		1.99-238	pg/g
PCB-21	--		--		14.1-14.6	pg/g
PCB-3	--		--		2.71-4.01	pg/g
PCB-36	--		--		0.159-0.159	pg/g
PCB-37	--		--		2-33.2	pg/g
PCB-38	--		--		0.142-0.231	pg/g
PCB-4	--		--		6.26-6.26	pg/g
PCB-5	--		--		0.341-1.48	pg/g
PCB-54	--		--		0.193-0.21	pg/g
PCB-55	--		--		0.513-1.17	pg/g
PCB-58	--		--		1.99-89.9	pg/g
PCB-60	--		--		2-33.2	pg/g
PCB-61/70	--		--		20.8-86.5	pg/g
PCB-66	--		--		20.9-66.1	pg/g
PCB-73	--		--		0.182-0.306	pg/g
PCB-77	--		--		33.2-89.9	pg/g
PCB-78	--		--		0.536-1.17	pg/g

Table B1-13. Tissue target and achieved detection limits.

Method Group/Analyte	DL Range Phase I ^b	Units	Target DL Phase II ^a	Units	DL Range Phase II ^b	Units
<i>PCB Congeners (cont.)</i>						
PCB-79	--		--		89.9-89.9	pg/g
PCB-8/5	--		--		11-28.5	pg/g
PCB-80	--		--		0.529-238	pg/g
PCB-81	--		--		2.01-89.9	pg/g
<i>Pesticides</i>						
1,1,1-Trichloro-2,2-bis (p-methoxyphenyl)-ethane	11-44	µg/kg	--		4.2-330	µg/kg
4,4'-DDD	6-43	µg/kg	--		1-100	µg/kg
4,4'-DDE	6-43	µg/kg	--		1-100	µg/kg
4,4'-DDT	6-43	µg/kg	1	µg/kg	5-100	µg/kg
Aldrin	6-43	µg/kg	360	µg/kg	2.5-100	µg/kg
alpha-BHC	6-43	µg/kg	--		1-100	µg/kg
alpha-chlordane	6-43	µg/kg	--		2.5-100	µg/kg
beta-BHC	0.64-43	µg/kg	50	µg/kg	2.5-100	µg/kg
Camphechlor	60-430	µg/kg	--		33-1700	µg/kg
delta-BHC	1.6-43	µg/kg	--		1-100	µg/kg
Dieldrin	6-43	µg/kg	30	µg/kg	1-100	µg/kg
Endosulfan I	6-43	µg/kg	--		1-100	µg/kg
Endosulfan II	6-43	µg/kg	--		5-100	µg/kg
Endosulfan sulfate	6-43	µg/kg	--		5-100	µg/kg
Endrin	6-24	µg/kg	--		5-100	µg/kg
Endrin aldehyde	6-43	µg/kg	--		1-100	µg/kg
Endrin ketone	6-43	µg/kg	--		1-100	µg/kg
gamma-BHC (Lindane)	6-43	µg/kg	--		1-100	µg/kg
gamma-chlordane	6-43	µg/kg	--		2.5-100	µg/kg
Heptachlor	6-43	µg/kg	--		1-100	µg/kg
Heptachlor epoxide	22-160	µg/kg	--		1-100	µg/kg

Table B1-13. Tissue target and achieved detection limits.

Method Group/Analyte	DL Range Phase I ^b	Units	Target DL Phase II ^a	Units	DL Range Phase II ^b	Units
Semivolatiles						
1,2,4-Trichlorobenzene	1000-2000	µg/kg	--		670-670	µg/kg
1,2-Dichlorobenzene	1000-2000	µg/kg	--		670-670	µg/kg
1,4-Dichlorobenzene	1000-2000	µg/kg	--		670-670	µg/kg
2,2'-oxybis(1-Chloropropane)	1000-2000	µg/kg	--		40-1000	µg/kg
2,4,5-Trichlorophenol	1000-2000	µg/kg	--		40-1700	µg/kg
2,4,6-Trichlorophenol	1000-2000	µg/kg	--		40-1000	µg/kg
2,4-Dichlorophenol	1000-2000	µg/kg	--		40-1000	µg/kg
2,4-Dimethylphenol	1000-2000	µg/kg	--		40-750	µg/kg
2,4-Dinitrophenol	5000-10000	µg/kg	--		100-2500	µg/kg
2,4-Dinitrotoluene	1000-2000	µg/kg	--		40-1000	µg/kg
2,6-Dinitrotoluene	1000-2000	µg/kg	--		40-1000	µg/kg
2-Chloronaphthalene	1000-2000	µg/kg	--		40-1000	µg/kg
2-Chlorophenol	1000-2000	µg/kg	--		40-1000	µg/kg
2-Methylphenol	1000-2000	µg/kg	--		40-1000	µg/kg
2-Nitroaniline	5000-10000	µg/kg	--		50-2500	µg/kg
2-Nitrophenol	1000-2000	µg/kg	--		40-1000	µg/kg
3,3'-Dichlorobenzidine	5000-10000	µg/kg	--		40-800	µg/kg
3,5,5-Trimethyl-2-cyclohexene-1-one	1000-2000	µg/kg	--		40-1000	µg/kg
3-Methylphenol & 4-Methylphenol	1000-2000	µg/kg	--		--	
3-Nitroaniline	5000-10000	µg/kg	--		100-2500	µg/kg
4,6-Dinitro-2-methylphenol	5000-10000	µg/kg	--		100-2500	µg/kg
4-Bromophenyl phenyl ether	1000-2000	µg/kg	--		40-1000	µg/kg
4-Chloro-3-methylphenol	1000-2000	µg/kg	--		40-1000	µg/kg
4-Chlorophenyl phenyl ether	1000-2000	µg/kg	--		40-1000	µg/kg
4-Methylphenol	--		--		40-1000	µg/kg
4-Nitrophenol	5000-10000	µg/kg	--		100-2000	µg/kg
Acetophenone	--		--		40-1000	µg/kg
Atrazine	--		--		40-1000	µg/kg
Benzaldehyde	--		--		40-800	µg/kg
Benzyl butyl phthalate	1000-2000	µg/kg	--		40-1000	µg/kg

Table B1-13. Tissue target and achieved detection limits.

Method Group/Analyte	DL Range Phase I ^b	Units	Target DL Phase II ^a	Units	DL Range Phase II ^b	Units
<i>Semivolatiles (cont.)</i>						
bis(2-Chloroethoxy)methane	1000-2000	µg/kg	--		40-1000	µg/kg
bis(2-Chloroethyl)ether	1000-2000	µg/kg	--		40-1000	µg/kg
bis(2-Ethylhexyl)phthalate	1000-2000	µg/kg	450	µg/kg	40-330000	µg/kg
Caprolactam	--		--		40-1000	µg/kg
Carbazole	1000-2000	µg/kg	--		670-670	µg/kg
Di-n-butylphthalate	1000-2000	µg/kg	--		40-9600	µg/kg
Di-n-octylphthalate	1000-2000	µg/kg	--		40-4000	µg/kg
Dibenzofuran	1000-2000	µg/kg	--		40-1000	µg/kg
Diethyl phthalate	2000-4000	µg/kg	--		40-1000	µg/kg
Dimethyl phthalate	1000-2000	µg/kg	--		40-1000	µg/kg
Hexachloro-1,3-butadiene	1000-2000	µg/kg	--		40-1000	µg/kg
Hexachlorobenzene	1000-2000	µg/kg	200	µg/kg	40-1000	µg/kg
Hexachlorocyclopentadiene	5000-10000	µg/kg	--		40-1000	µg/kg
Hexachloroethane	1000-2000	µg/kg	--		40-1000	µg/kg
M-Dichlorobenzene	1000-2000	µg/kg	--		670-670	µg/kg
N-Nitroso-di-n-propylamine	1000-2000	µg/kg	--		40-1000	µg/kg
N-Nitrosodiphenylamine	1000-2000	µg/kg	--		40-1000	µg/kg
Nitrobenzene	1000-2000	µg/kg	--		40-1000	µg/kg
P-Chloroaniline	1000-2000	µg/kg	--		40-1000	µg/kg
P-Nitroaniline	5000-10000	µg/kg	--		100-2500	µg/kg
Pentachlorophenol	5000-10000	µg/kg	--		100-2000	µg/kg
Phenol	1000-2000	µg/kg	--		40-1000	µg/kg

^a Derived from the Calcasieu Estuary Phase II Sampling and Analysis Plan (Table 5-2).^b Derived from the Calcasieu Estuary Database.

PCBs = polychlorinated biphenyls; PAHs = polycyclic aromatic hydrocarbons; DL = detection limit.

Table B1-14. Pore-water target detection and achieved detection limits.

Method Group/Analyte	Target DL Phase II ^a	Units	DL Range Phase II ^b	Units
Metals				
Cadmium	--		0.000016-0.00094	mg/L
Copper	0.001	mg/L	0.00484-0.0106	mg/L
Lead	0.0002	mg/L	0.000052-0.0022	mg/L
Nickel	--		0.0038-0.0051	mg/L
Silver	--		0.000025-0.0018	mg/L
Zinc	0.002	mg/L	0.0071-0.054	mg/L
PAHs				
1,2-Benzphenanthracene	--		0.00005-0.00005	mg/L
2-Methylnaphthalene	0.00001	mg/L	0.01-0.01	mg/L
Acenaphthene	--		0.00005-0.00005	mg/L
Acenaphthylene	--		0.00005-0.00005	mg/L
Anthracene	--		0.00005-0.00005	mg/L
Benzo(a)anthracene	0.00001	mg/L	0.00005-0.00005	mg/L
Benzo(a)pyrene	0.00001	mg/L	0.00005-0.00005	mg/L
Benzo(b)fluoranthene	--		0.00005-0.00005	mg/L
Benzo(g,h,i)perylene	--		0.00005-0.00005	mg/L
Benzo(k)fluoranthene	--		0.00005-0.00005	mg/L
Dibenzo(a,h)anthracene	0.00001	mg/L	0.00005-0.00005	mg/L
Fluoranthene	--		0.00005-0.00005	mg/L
Fluorene	--		0.00005-0.00005	mg/L
Indeno(1,2,3-cd)pyrene	--		0.00005-0.00005	mg/L
Naphthalene	--		0.00005-0.0004	mg/L
Phenanthrene	0.00001	mg/L	0.00005-0.00005	mg/L
Pyrene	--		0.00005-0.00005	mg/L
PCB Aroclors				
Aroclor-1016	--		0.1-0.1	µg/L
Aroclor-1221	--		0.1-0.1	µg/L
Aroclor-1232	--		0.1-0.1	µg/L
Aroclor-1242	--		0.1-0.1	µg/L
Aroclor-1248	--		0.1-0.1	µg/L
Aroclor-1254	--		0.1-0.1	µg/L
Aroclor-1260	--		0.1-0.1	µg/L
PCB Congeners				
PCB-101/90	--		0.09-0.41	ng/L
PCB-105	--		0.06-0.31	ng/L
PCB-110/77	--		0.07-0.27	ng/L
PCB-118	--		0.38-1.52	ng/L
PCB-128	--		0.07-0.976	ng/L
PCB-153/132	--		0.09-0.46	ng/L

Table B1-14. Pore-water target detection and achieved detection limits.

Method Group/Analyte	Target DL Phase II ^a	Units	DL Range Phase II ^b	Units
<i>PCB Congeners (cont.)</i>				
PCB-170/190	--		0.11-0.54	ng/L
PCB-18/17	--		0.06-0.25	ng/L
PCB-180	--		0.08-0.32	ng/L
PCB-187	--		0.1-0.41	ng/L
PCB-195/208	--		0.07-0.35	ng/L
PCB-201/157/173	--		0.08-0.42	ng/L
PCB-206	--		0.08-0.39	ng/L
PCB-209	--		0.08-0.42	ng/L
PCB-28/20	--		0.06-0.31	ng/L
PCB-29/26	--		0.04-0.19	ng/L
PCB-44	--		0.11-0.42	ng/L
PCB-52	--		0.04-0.2	ng/L
PCB-66	--		0.07-0.34	ng/L
PCB-8/5	--		0.05-0.23	ng/L
PCB-87/115	--		0.06-0.31	ng/L
Pesticides				
1,1,1-Trichloro-2,2-bis (p-methoxyphenyl)-ethane	--		0.05-0.05	µg/L
2,4' DDD	--		0.00005-0.00027	µg/L
2,4' DDE	--		0.00006-0.00031	µg/L
2,4' DDT	--		0.00007-0.00031	µg/L
4,4'-DDD	0.005	µg/L	0.00005-0.01	µg/L
4,4'-DDE	0.005	µg/L	0.00005-0.01	µg/L
4,4'-DDT	0.005	µg/L	0.00006-0.01	µg/L
Aldrin	0.007	µg/L	0.00003-0.005	µg/L
alpha-BHC	--		0.00008-0.005	µg/L
alpha-chlordane	--		0.00006-0.005	µg/L
beta-BHC	0.005	µg/L	0.00005-0.025	µg/L
Camphechlor	--		0.0005-0.0005	µg/L
Chlorpyrifos	--		0.00015-0.00074	µg/L
Cis-nonachlor	--		0.00006-0.00029	µg/L
delta-BHC	--		0.00006-0.005	µg/L
Dieldrin	0.012	µg/L	0.00005-0.01	µg/L
Endosulfan I	--		0.005-0.005	µg/L
Endosulfan II	--		0.00006-0.01	µg/L
Endosulfan sulfate	--		0.01-0.01	µg/L
Endrin	--		0.00012-0.01	µg/L
Endrin aldehyde	--		0.01-0.01	µg/L
Endrin ketone	--		0.01-0.01	µg/L
gamma-BHC (Lindane)	--		0.00004-0.045	µg/L
gamma-chlordane	--		0.00005-0.0073	µg/L
Heptachlor	--		0.00008-0.01	µg/L

Table B1-14. Pore-water target detection and achieved detection limits.

Method Group/Analyte	Target DL Phase II ^a	Units	DL Range Phase II ^b	Units
Pesticides (cont.)				
Heptachlor epoxide	--		0.00004-0.005	µg/L
Mirex	--		0.00009-0.0004	µg/L
Oxychlordane	--		0.00006-0.00028	µg/L
Pentachloroanisole	--		0.00006-0.00028	µg/L
Pentachlorobenzene	--		0.00012-0.0005	µg/L
Tetrachlorobenzene 1,2,3,4	--		0.00017-0.00057	µg/L
Trans-Nonachlor	--		0.00004-0.0002	µg/L
Semivolatile				
1,2,4,5-Tetrachlorobenzene	--		0.00011-0.00056	µg/L
Hexachloro-1,3-butadiene	0.01	µg/L	0.15-0.2	µg/L
Hexachlorobenzene	0.01	µg/L	0.00008-0.2	µg/L

PCBs = polychlorinated biphenyls; PAHs = polycyclic aromatic hydrocarbons; DL = detection limit.

Table B1-15. Key to abbreviations used for polychlorinated dibenzo-*p*-dioxins/polychlorinated dibenzofurans and polychlorinated biphenyl congeners in Appendices B2 through B9.

Abbreviated Name	Chemicals of Potential Concern
<i>Polychlorinated dibenzo-p-dioxins (PCDDs)</i>	
1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin
1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin
1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin
1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin
1,2,3,7,8-PeCDD	1,2,3,7,8-Pentachlorodibenzo-p-dioxin
2,3,7,8-TCDD	2,3,7,8-Tetrachlorodibenzo-p-dioxin
OCDD	Octachlorodibenzo-p-dioxin
Total HpCDD	Total Heptaachlorodibenzo-p-dioxin
Total HxCDD	Total Hexachlorodibenzo-p-dioxin
Total PeCDD	Total Pentachlorodibenzo-p-dioxin
Total TCDD	Total tetrachlorodibenzo-p-dioxins
<i>Polychlorinated dibenzofurans (PCDFs)</i>	
1,2,3,4,6,7,8-HpCDF	1,2,3,4,6,7,8-Heptachlorodibenzofuran
1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8,9-Heptachlorodibenzofuran
1,2,3,4,7,8-HxCDF	1,2,3,4,7,8-Hexachlorodibenzofuran
1,2,3,6,7,8-HxCDF	1,2,3,6,7,8-Hexachlorodibenzofuran
1,2,3,7,8,9-HxCDF	1,2,3,7,8,9-Hexachlorodibenzofuran
1,2,3,7,8-PeCDF	1,2,3,7,8-Pentachlorodibenzofuran
2,3,4,6,7,8-HxCDF	2,3,4,6,7,8-Hexachlorodibenzofuran
2,3,4,7,8-PeCDF	2,3,4,7,8-Pentachlorodibenzofuran
2,3,7,8-TCDF	2,3,7,8-Tetrachlorodibenzofuran
OCDF	Octachlorodibenzofuran
Total HpCDF	Total Heptaachlorodibenzofurans
Total HxCDF	Total Hexachlorodibenzofurans
Total PeCDF	Total Pentachlorodibenzofurans
Total TCDF	Total Tetrachlorodibenzofurans
<i>Polychlorinated Biphenyl (PCB) Congeners</i>	
PCB 101/90	2,2',4,5,5'-Pentachlorobiphenyl & 2,2',3,4',5-Pentachlorobiphenyl
PCB 105	2,3,3',4,4'-Pentachlorobiphenyl
PCB 108	2,3,3',4,5'-Pentachlorobiphenyl
PCB 110/77	2,3,3',4',6-Pentachlorobiphenyl & 3,3',4,4'-Tetrachlorobiphenyl
PCB 114	2,3,4,4',5-Pentachlorobiphenyl
PCB 118	2,3',4,4',5-Pentachlorobiphenyl
PCB 126	3,3',4,4',5-Pentachlorobiphenyl
PCB 127	3,3',4,5,5'-Pentachlorobiphenyl
PCB 128	2,2',3,3',4,4'-Hexachlorobiphenyl
PCB 138 /160	2,2',3,4,4',5'-Hexachlorobiphenyl & 2,3,3',4,5,6-Hexachlorobiphenyl
PCB 15	4,4'-Dichlorobiphenyl
PCB 153/132	2,2',4,4',5,5'-Hexachlorobiphenyl & 2,2',3,3',4,6'-Hexachlorobiphenyl
PCB 156	2,3,3',4,4',5-Hexachlorobiphenyl
PCB 157	2,3,3',4,4',5'-Hexachlorobiphenyl
PCB 162	2,3,3',4',5,5'-Hexachlorobiphenyl

Table B1-15. Key to abbreviations used for polychlorinated dibenzo-*p* -dioxins/polychlorinated dibenzofurans and polychlorinated biphenyl congeners in Appendices B2 through B9.

Abbreviated Name	Chemicals of Potential Concern
<i>Polychlorinated Biphenyl (PCB) Congeners (cont.)</i>	
PCB 167	2,3',4,4',5,5'-Hexachlorobiphenyl
PCB 169	3,3',4,4',5,5'-Hexachlorobiphenyl
PCB 170/190	2,2',3,3',4,4',5-Heptachlorobiphenyl & 2,3,3',4,4',5,6-Heptachlorobiphenyl
PCB 18/17	2,2',5-Trichlorobiphenyl & 2,2',4-Trichlorobiphenyl
PCB 180	2,2',3,4,4',5,5'-Heptachlorobiphenyl
PCB 187	2,2',3,4',5,5',6-Heptachlorobiphenyl
PCB 189	2,3,3',4,4',5,5'-Heptachlorobiphenyl
PCB 195/208	2,2',3,3',4,4',5,6-Octachlorobiphenyl & 2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl
PCB 201/157/173	2,2',3,3',4,5',6,6'-Octachlorobiphenyl & 2,3,3',4,4',5'-Hexachlorobiphenyl & 2,2',3,3',4,5,6-Heptachlorobiphenyl
PCB 206	2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl
PCB 209	2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl
PCB 28	2,4,4'-Trichlorobiphenyl
PCB 29	2,4,5-Trichlorobiphenyl
PCB 37	3,4,4'-Trichlorobiphenyl
PCB 44	2,2',3,5'-Tetrachlorobiphenyl
PCB 52	2,2',5,5'-Tetrachlorobiphenyl
PCB 58	2,3,3',5'-Tetrachlorobiphenyl
PCB 60	2,3,4,4'-Tetrachlorobiphenyl
PCB 61/70	2,3,4,5-Tetrachlorobiphenyl & 2,3',4',5-Tetrachlorobiphenyl
PCB 66	2,3',4,4'-Tetrachlorobiphenyl
PCB 77	3,3',4,4'-Tetrachlorobiphenyl
PCB 79	3,3',4,5'-Tetrachlorobiphenyl
PCB 8/5	2,4'-Dichlorobiphenyl & 2,3-Dichlorobiphenyl
PCB 80	3,3',5,5'-Tetrachlorobiphenyl
PCB 81	3,4,4',5-Tetrachlorobiphenyl
PCB 87/115	2,2',3,4,5'-Pentachlorobiphenyl & 2,3,4,4',6-Pentachlorobiphenyl